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THE *Country* GUIDE

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APRIL, 1949

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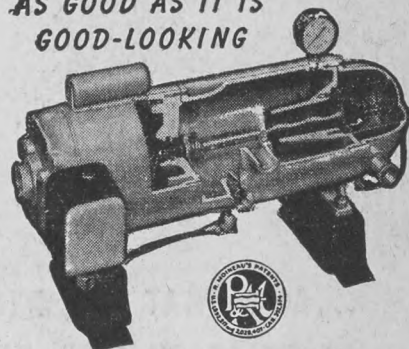
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Britain's Welfare State

A noted British economist appraises the effort of the Attlee government's reconstruction plans.

THE North American press blossoms out periodically with articles assessing the progress made by the British Labor government in meeting the many and complicated problems facing it. Too often the prejudices of the author show through the cracks in the argument. No such criticism can be levelled at the leading article in the New York Times magazine of March 20 by Barbara Ward. The author is foreign editor of The London Economist, and one of the most penetrating critics of our time.

Christopher Mayhew, a British official, created a sensation recently by an ill-advised declaration that British recovery was now complete. Americans immediately began to question the advisability of continuing Marshall Plan aid. They have never regarded British plans for the nationalization of industry with a friendly eye. They began asking if E.R.P. money was being used to float social and economic experiments which offended their reverence for private enterprise.

Miss Ward answers them in this fashion. "Only in an indirect sense can it be said that dollar aid has made nationalization and other questionable policies possible. It is true that had the British standard of living fallen by 50 per cent in 1947, the Labor government might very well have been driven from office, and its power to put through any policies, good or bad, would have ceased. But what would have taken its place? Certainly not a government based on moderate Conservatism. The alternative, snatched at in a time of disaster, would probably have been a dictatorship of the right or left—which is precisely the situation which the recovery program is designed to prevent.

"If it is agreed that the chief purpose of Marshall aid has been to keep political extremism at bay by maintaining and steadily increasing the Western European standard of living, it can be argued that Britain with her social experiment, far from abusing American generosity, has made better use of dollar aid than has any other country. The essence of political stability is a reasonably contented population, and the factor which more than any other has created political uncertainty and played into the hands of the Communists in such key countries as France and Italy has been the uneven distribution of the benefits provided under Marshall aid, and the widespread belief that a small group in the nation was profiting by American assistance at the expense of everybody else. If one point more than any other deserves examination in the British social experiment, it is this factor of distribution."

American disapproval of the British experiment has been chiefly directed against public ownership, but, as Miss Ward points out, nationalization has only touched the fringe of the British economy. The central theme of the transformation taking place is the creation of the Welfare State. The essence of the Welfare State is that a certain

portion of the national income shall be redistributed by the state to provide a minimum degree of economic security for everybody. This minimum is determined, not by the individual's skill, or strength, or earning capacity, but simply by need. The citizen's right to this minimum adheres to him just as do his civil rights, simply because he is a man.

The four pillars of the Welfare State are social insurance, free medical service, free education, and subsidized housing and food. The gains which have been registered on these fronts are impressive. The health of the country has never been better. Infant mortality was never so low; 1948 was a record with only 38 babies lost per thousand, as against 50 in 1938. Rich and poor alike pay less than the economic price for certain essential foods, bread, sugar, and fats. Nearly a million families have been rehoused since the end of the war, five times as many as were rehoused in the three years 1919-1922, when the availability of labor was not nearly so pressing as now. Public education, though still behind North American attainments, has made great strides. Contentment in industry may be measured by the relative record of days lost in strikes and other industrial disputes, in the three years following the two wars; after World War I, 167 million working days; after World War II, less than nine million.

ON the other hand there has been some loss in incentive. Better health, better intelligence, greater stability have been accompanied by a diminution of acquisitive tendencies. Men prefer leisure to larger incomes. Others are content with smaller incomes, provided they are steady. It is very difficult in these days to earn an income of over \$24,000 in Britain, so high has taxation become. If business men are too heavily taxed for too long they may lose their initiative and desire to create and trade.

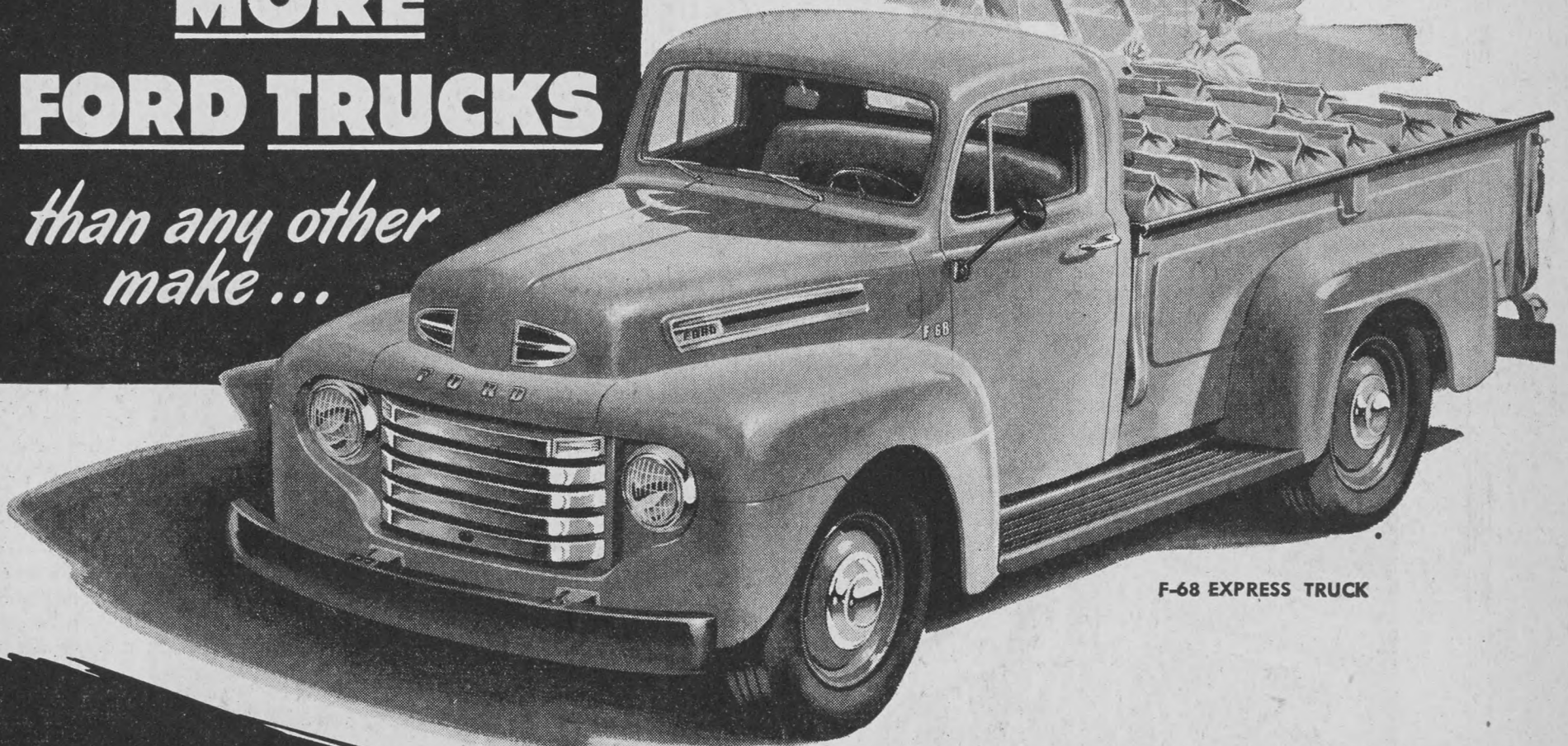
Britain's social program accepts need as its regulator. There is no limit to need. But there is a limit to the funds available to satisfy it. The state planners aim to devote 20 per cent of the national income—some two billion sterling—to capital investment, but the cost of medical services and food subsidies are encroaching on the allotment to capital.

Sir Stafford Cripps' problem is more than that of balancing foreign trade and closing the dollar gap, formidable as those problems are. He is faced also with the problem of increasing and expanding production when some of the incentives are disappearing. The British achievement in reconstruction, as far as it has gone is impressive. But the point is being reached at which the scale of the welfare itself may hold in check the necessary expansion of national income on which the whole structure is built. The social experiments which should have been introduced in pre-war days of national solvency and Baldwinian complacency may be too great a load for a nation impoverished by war to sustain.

The Guide regrets that this month's instalment of Under the Peace Tower had to be omitted because Mr. Cross, its author, is in Europe. It is planned to resume his series in the next issue.

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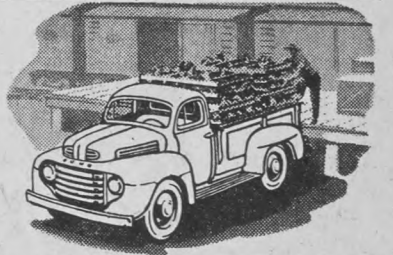
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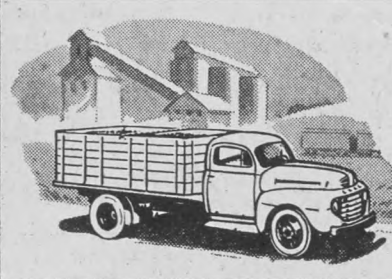
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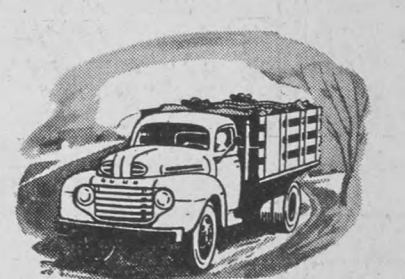
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HOW much basis is there for the belief, widespread among white-collar workers and city-dwellers generally, that the farmer isn't paying his fair share of the income tax?

This question is of importance not only to the farmer as the person of immediate interest, but to the nation as a whole because it affects the attitude of the entire population to the income tax. So long as there exists among any particular body of the public a feeling that other sections are receiving favorable treatment discontent will be the companion of all.

From a theoretical point of view the income tax is the fairest way of spreading the cost of government. Briefly, the argument for the income tax is this: All of us benefit by the fact that society is organized. Government is charged directly with the responsibility of keeping society organized and insuring that the organization functions as smoothly as possible. The government needs money to meet the costs of keeping the organization functioning smoothly. It seems only fair then that each one of us should pay his fair share of the costs, and the best measure of our fair share is the extent to which we benefit from the organization of society—the extent to which we can take advantage of the fact that we live in an organized society.

Surely the measure of this is the income we are able to earn as individuals. Therefore a fairly steeply graduated income tax meets the requirements of a good tax in that it imposes a charge in proportion to benefits received, and also recognizes the importance of the principle "ability to pay."

That's the theory. On the basis of this theoretical approach nobody should have any serious objections to the tax. As a matter of fact the objections to the income tax come not from any theoretical objection, but from the practical fact that a great many people feel that other individuals and other groups are "getting away with something." This applies particularly to the salaried worker whose tax is deducted at source, and who has no special exemptions which he can use to his benefit.

While on the one hand the city-dweller may think the farmer is "getting away with murder," the farmer feels that he is not being treated fairly either.

As a matter of fact the farmer doesn't enjoy the broad list of exemptions which many people feel he is entitled to at the present time.

GENERALLY the farmer is allowed reasonable depreciation on his machinery, half of the depreciation on his car, and such other operating costs as he can show receipts to cover. He isn't allowed anything for work he does himself or which members of his family perform. He isn't allowed depreciation for the cost of putting electric power into his home, for his telephone, or for the use of a car used for pleasure purposes only. If he owns stock and some of them perish during the winter, or are carried away by disease so that he is faced with heavy capital losses or replacement charges, there is no way he can charge that expense against income for tax purposes. The income tax department insists that up to the present he add to his income, for tax purposes, a sum of money to cover the product of his farm or garden which he uses himself. His home is the place where cream is separated, and many other farm tasks are carried on. This year, for the first time, the department recognizes that the farmer's residence suffers wear and tear in the conduct of his business and makes a partial allowance in calculating his taxable income.

There is no denying that there has been some delinquency among some farmers when it comes to paying income tax. But the reasons for this are neither a desire on the part of the income tax authorities to permit the farmer to escape his obligations, nor any particular desire on the part of the farmer to defy the law.



THE FARMER AND THE INCOME TAX

People who use the facile argument that farmers are getting away with murder in respect to the income tax should consider some of these points raised

by DONALD MacLEOD

In the first place it is only within the last few years that any substantial proportion of farmers have had incomes which were in the taxation brackets. Certainly from 1930 on the average farmer was barely able to eke out a subsistence for himself and his family. Most of them were burdened with heavy debts, and even heavier interest payments. Municipal taxes added an additional onerous burden which he couldn't possibly escape and which, all too often he had no money to meet. It is taking the farmer just a little time to realize that his position has changed, and even where he realizes it has changed, he isn't too sure that the changed times are here to stay. His view of tomorrow lies under the shadow of his fearful memory of the past.

BUT the biggest factor affecting the farmer's thinking about income tax is the fact that it necessitates his keeping accurate records by up-to-date bookkeeping methods. After all each farmer is in business for himself, and it is a complicated business. And there are few farmers who have had the training necessary to enable them to keep careful accounts which good business techniques re-

quire. This, as a matter of fact, is largely the basis of the farmer's complaint against the tax.

If he knows something of bookkeeping, if he keeps a set of books, if he gets receipts for every cent he spends, if he writes down a record of every cent that comes in and every cent that goes out, then the tax doesn't hit him too hard. The reason for this is that the average economic unit on our prairies—usually a half-section farm in an average district or a quarter-section in a good-soil district—doesn't permit the farmer to make enough clear of legitimate costs to put him into the taxable brackets, unless he is engaging in some specialty.

But, unfortunately, far too many farmers don't keep records of their expenditures; they don't treasure and file their receipts. On the other hand records of his gross income are easily obtained from the marketing agencies he uses. The result is that when it comes time for the farmer to make out his income tax returns he finds that the expenses of which he has record are far less than his real expenses actually were. But he has to pay taxes on the basis of the records he can produce. The result is, because of his failure to keep accurate books, his income for tax purposes shows far larger than it actually should and the farmer consequently pays a higher tax than he properly should. The only way this situation can be corrected is for the farmer to keep adequate records.

Then again, many of the white-collar workers who think they are paying more than their fair share of taxes, are covered by pension plans. The amount that is contributed to their pensions by their employers doesn't show as income. There are no pension plans for farmers, unless they arrange their own. But the farmer who takes out insurance policies, or buys annuities to protect him in his old age can't deduct payments into these from his income for tax purposes. To many farmers this appears to be discrimination against them.

Few of the people who are so quick to accept the statement that the farmer isn't paying his fair share of income taxes have any conception of the expenses the farmer must meet. They base their ideas of the farmer's income on the prices they pay for meat and butter and other foods. They don't realize the spread that exists between what the farmer gets and what the consumer pays.

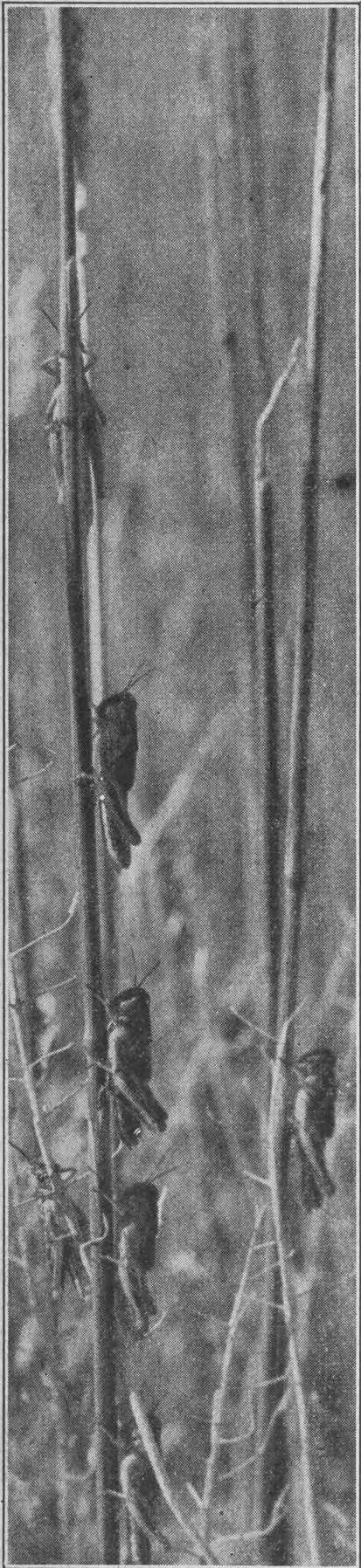
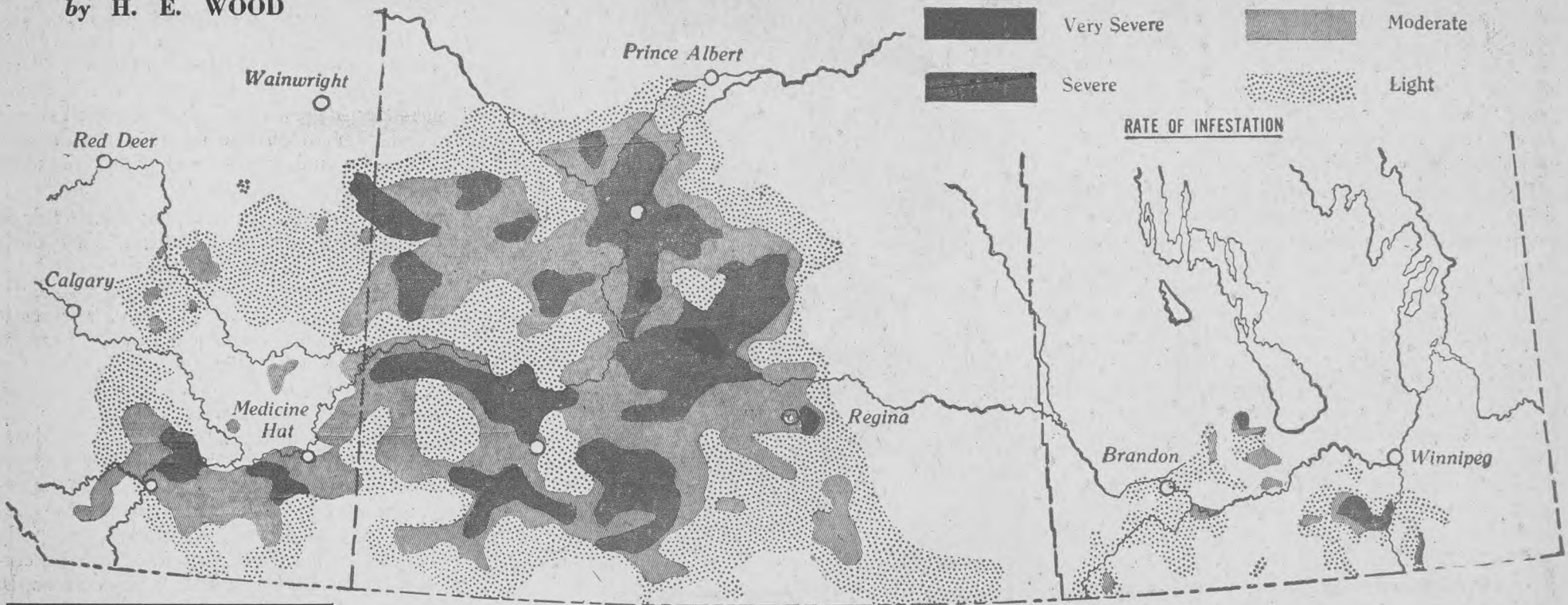
Let's just take a look at what the farmer is faced with. First of all, machinery is expensive to buy and expensive to maintain. Repairs are frequent and costly. During seeding time the farmer works at least from dawn to dusk, and often works through the night too in order to prepare his land and get his crop in. More and more, besides buying seed—which costs much more than the grain he sells—the farmer must add expensive fertilizers to his land in order to maintain its fertility. During the growing season he is faced with expensive operations, and chemicals, to combat the ever-present weeds.

AND, even after he has prepared and fertilized his soil, planted his crop, treated the weeds, he is still the plaything of the weather. A prolonged, hot, rainless period can cut back his yield to the point where he hardly gets back enough to pay for his seed. A sudden hailstorm can wipe out his entire year's work in a matter of minutes. An early frost can cut the value of his crop in half. Or an early snow storm or wet fall can make it impossible for him to harvest it at all. All of these are situations over which the farmer himself has no control.

The risks in farming are even greater than they are in business and can only be equalled by speculation on the stock exchange. The speculator on the stock exchange can chalk up his earnings to capital gains, which are not taxed. But the farmer must chalk his up to earnings and pay taxes on them. Take a look some time at a map showing P.F.A. payments on the prairies! (Turn to page 71)

The HOPPERS Are Coming

by H. E. WOOD



THE Prairie Provinces are facing the most extensive—and what is likely to develop into the most serious—threat from grasshoppers, since the late thirties. Hub of this hopper concentration is the major portion of the cropped lands of western Saskatchewan, with quite large outbreaks expected in Manitoba and Alberta. This forecast is based upon careful and extensive surveys conducted by officials of the Dominion Entomological Laboratories in each of the provinces. Surveys of adult grasshoppers commenced in late July of last year, and were followed by examination and counts of eggs oviposited throughout the fall season.

The Great Central Plains, of which the Prairie Provinces comprise the northern fringe, have been subjected to periodic cycles of grasshoppers as far back as the earliest records go. A historian of the early Red River Settlement records: "An invasion of hoppers occurred in 1818 destroying the crops of the struggling settlers. From eggs deposited in the ground that fall, swarms of hoppers hatched in the spring of 1819 and again devoured the crops." Between the years 1857 and 1875, extensive outbreaks of variable intensity were recorded over much of the plains area.

As in other parts of the world, grasshoppers appear in indefinite but recurring cycles. The late Norman Criddle, recognized as an outstanding grasshopper authority of his day, stated in a bulletin published in 1932: "... about every eleven years grasshoppers increase in parts of Canada to dangerous numbers." In general, years of serious grasshopper invasions are associated with seasons in which rainfall is limited and temperatures above the prevailing average. It is under such conditions that grasshoppers increase and do the maximum damage to crops. Usually grasshoppers continue abundant for two to six years. They decrease with a return to a period of greater rainfall and lower temperatures. Insect enemies also contribute to the destruction of egg, nymphs, and adult grasshoppers.

Although there are many different kinds of grasshoppers, only three or four species reach economic importance throughout the Prairies. One of the most injurious species is the clear-winged grasshopper, *Camnula pellucida*, which masses its egg clusters in short-grassed areas, along roadsides, fence lines, headlands, and pasture fields that frequently border grain fields. This species rarely lays in cultivated fields. Another, which lays its eggs along drainage and road ditches, shoulders of roads, and to some extent in fields, is the two-striped grasshopper, *Melanoplus bivittatus*. Most common, especially in Saskatchewan and Alberta, is the lesser migratory grasshopper, *Melanoplus mexicanus*, which scatters its egg clusters throughout cultivated fields, especially upland

science has contributed to the development of agriculture.

The earliest record of a government coming to the aid of farmers in their fight against grasshoppers appears to have been in the year 1900, when the Manitoba Government distributed in the southern part of the province over 1,000 pounds of paris green. This was added to bran—a pound of the poison to 25 pounds of bran—which was then dampened. The following year the "Criddle Mixture" was introduced; in this, fresh horse droppings with salt added were substituted for bran. Sawdust was first tried by the late Mr. Criddle in a restricted outbreak around Treesbank, Manitoba, in 1911-13.

The first large-scale grasshopper campaign on the Canadian Prairies was conducted in conjunction with the widespread grasshopper epidemic in 1919-1923. This campaign saw the establishment of hundreds of municipal bait-mixing stations; also, the introduction of the "Kansas Mixture" where oranges, lemons and molasses were added to bran as attractants and, incidentally, sometimes made mixing stations rather popular holdouts.

The development of mixers, both hand and power, came out of this campaign and overcame a great deal of the labor involved in shovel mixing. By 1923 the bait became pretty well standardized, bran and sawdust equal parts, with crude arsenic the poison.

The dry, hot years of the thirties, commencing in 1932, saw the major attack against grasshoppers on the Prairies. A two-way control campaign was planned and executed. Cultural practices were given major emphasis, and they hold good for the present campaign. These include: Early seeding—late seeded crops are very subject to grasshopper damage; summerfallowing, rather than seeding to crop, stubble land known to be heavily infested with grasshopper eggs. Where it is necessary to crop such fields, they should be shallow worked (not more than two inches) very early in the spring, to bring to the surface as many eggs as possible. Summerfallow

(Turn to page 65)

What you should know and do about the heavy infestation of grasshoppers coming up this year.

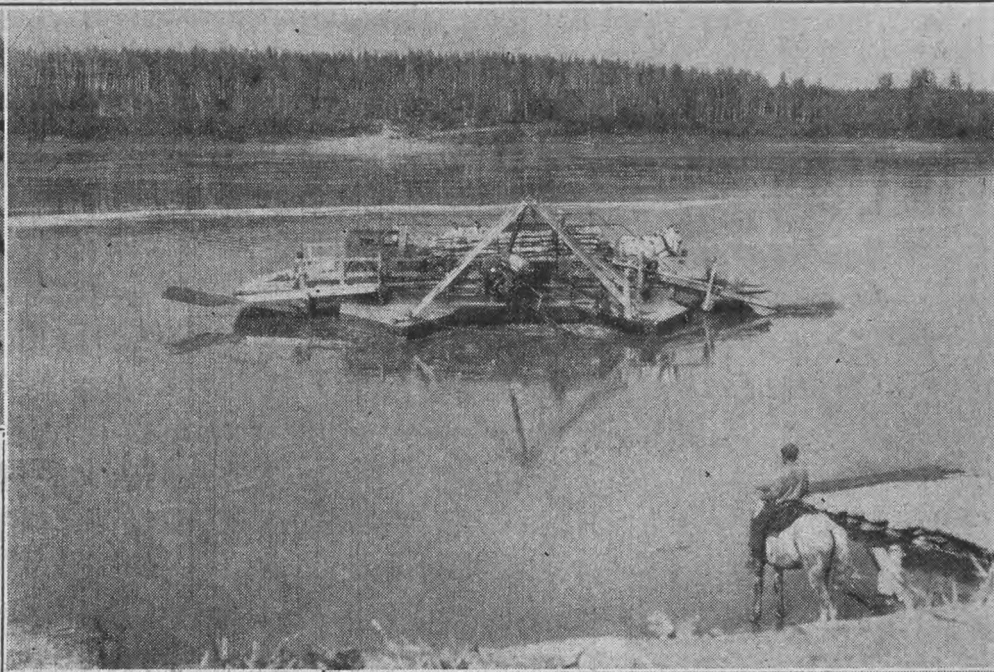
stubble fields. Some knowledge of the species of hopper common to your district is very helpful when it comes to control measures.

All of our injurious species of grasshoppers pass the winter in the egg stage. The severity of the winter, snow covering and other similar conditions, have little, if any, effect upon the eggs. Nature has provided well and apart from eggs that may have been destroyed by insects, birds and ants, those going into winter may be expected to hatch this spring.

A BRIEF review of the several grasshopper outbreaks since the first of the century reveals an interesting development in control measures to combat the insects. Of particular interest is the change or evolution that has taken place in the kinds and methods of poisoning used. Here we see yet another of the many ways



A sample of the garden crops the Fort Vermilion district can grow.



FORT DOWN THE PEACE

CANADA owes a great deal to fur and the hardy fur traders. Long before any settlement developed in the western provinces, the fur trader roamed the land in all directions, following the waterways in search of Indians and their valuable fur catches. Many trading posts were erected in far out-of-the-way places, by the Northwest Trading Company and the Hudson's Bay Company. At many of these places towns and cities have since developed, while others, though established many years before settlers in any numbers came to western Canada, have remained more or less detached from any well-settled area.

Such a settlement is Fort Vermilion in Alberta. It is a safe guess that few readers of The Country Guide have ever been to Fort Vermilion, and that perhaps many would not be able to find it easily on a map. From Edmonton, by as straight a road as it is possible to travel by car, Fort Vermilion is 600 miles north. One goes into the Peace River District through Athabaska, High Prairie and thence to Peace River Town. From here the road turns about 17 miles west, then straight north from Grimshaw for 186 miles through comparatively new but good farming country for approximately half the distance. Then northward through undeveloped country to Keg River, and finally a turn east before a final 50 miles until the ferry is reached not far from the town of Fort Vermilion.

Since last August, when I made the trip, I understand that the graded road has been pushed through from the highway the full 50 miles to the ferry, but at that time, except for about two miles, it was the case of following a very wiggly, deep and dusty trail for 50 miles at 20 miles per hour.

Fort Vermilion is located in township 108 (Edmonton is township 53 and Peace River Town is township 84) on the line between ranges 13 and 14 west of the fifth meridian. It is directly north of a line running through Purple Springs, Hanna and Vegreville, though to reach it by road one must go west as far as range 25, at Keg River.

The Peace is one of three great rivers, the waters of which originate on the eastern slopes of the Rocky

Fur trade outpost a century ago, Fort Vermilion now catches up on its farm production.

by H. S. FRY

Mountains and eventually reach the Arctic Ocean by the great Mackenzie River. Above (south) is the Athabaska, which empties into Lake Athabaska. To the north a very considerable distance is the Liard River which empties into the Mackenzie River more or less opposite the northern boundary of British Columbia. The Peace River itself empties into the Slave River, which, taking the waters of Lake Athabaska and the Peace River, empties them into Great Slave Lake, which is drained by the Mackenzie. Below Peace River Town the Peace travels north for approximately a hundred miles, following a bent and twisted channel. Then it moves northeasterly to Fort Vermilion, then still more easterly to the Slave River.

THE Peace River has been the great artery of commerce for this far north country. Fort Vermilion was founded in 1831. It was named from the vermilion color of the roof of the Hudson's Bay Trading Post established in that year. Earlier, however (1815), the Hudson's Bay Company had entered the field in competition with the Northwest Trading Company (which appeared in the area in 1798) and began a period of bitter and violent rivalry with the earlier established company. From 1831 to 1870 the Hudson's Bay Company factors and their assistants were the only English-speaking white men in the country. About 1870, the first English settler, E. J. Lawrence, came in to start the Irene Indian Trading School, sponsored by the Anglican Church. Six years later the first Anglican Mission was established and in 1880 the school house was built, while in addition some livestock was brought in from Edmonton. In the early years of the Mission a little crop was grown, principally barley as well as a few potatoes and vegetables in a small garden. A few eggs were available and a limited quantity of dairy butter.

By 1866 the annals of the district record the existence of hay and barley

fields; and it is reported of the Rev. M. Scott, the head of the Mission, that "being an active, vigorous man he would be seen in the summer harvest time stripped to the waist helping his neighbors in their hay and barley fields." In 1888, Henry Lawrence, brother of the school principal, became the second English settler to arrive and a year later another brother came, bringing with him the first steam engine, flour and grist mill and power saw to be used in the area.

In the same year the principal went south for supplies and to raise funds, bringing with him on his return a 21-year-old former Barnardo Home boy, Robert Jones, who, breaking his contract with the mission, took up land in 1892 and became the first homesteader in what is known as the Stoney Point District. More important is the fact that 16 years later, impressed by the gardens and crops of Robert Jones, a government representative, F. Bredin, recommended him as a suitable manager for a new experimental sub-station to be established in the area. From this date until 1934, Robert Jones was in charge of the gradually expanding work of the Dominion Experimental Farm Service in that area. He was succeeded in that year by Albert Lawrence, who had become his assistant in 1922. About 35 acres of land were in use for this work, but in 1935, the government purchased the present site of the Dominion Experimental Station at Vermilion which lies just west of Fort Vermilion itself. Acreage, production and buildings were gradually increased until his death in 1944, when he was succeeded by the present superintendent, V. J. Lowe, who has been in charge of the station since April 1944.

A REPORT of the work at this Station published by the Dominion Government in 1922, records a statement by Mr. Jones that a complete crop failure in the Peace River

(Turn to page 38)

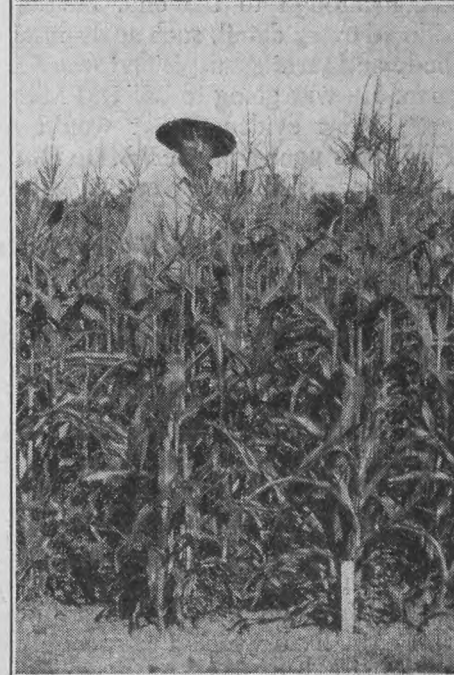


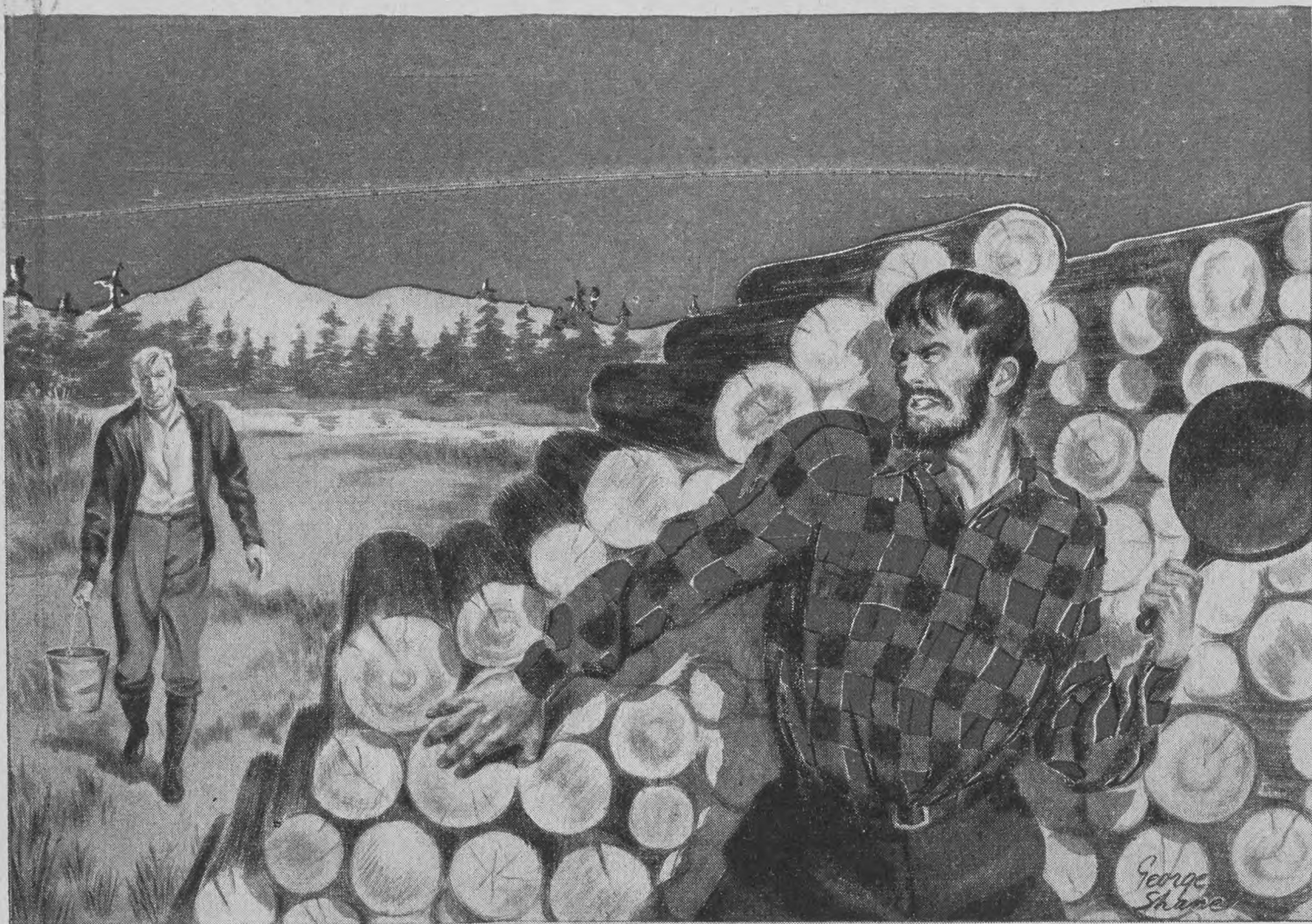
Top: Ferrying across the Peace River.

Above: Red Currants do well.

Below: Superintendent V. J. Lowe examines a loaded cucumber plant.

Bottom: The sweet corn was good on August 10.





Laird caught up the frying pan. He crouched behind the woodpile.

Pete Laird was naturally lazy, but when he contemplated murder, he didn't propose to overlook a single bet.

for a young squirt to learn to be a carpenter—unless he wants to be a wood butcher—a bricklayer, and so on. Same way with fur.”

MIKE hadn't believed it, until a wolverine made a sucker out of him, ran his trap line and refused to be caught in Mike's traps. In time Old Man Endicott's stomach hurt him a lot. He had to take baking soda after every meal, and folks at Cold Deck, the nearest trading post, said he should have the local doctor look at him and maybe operate, or else go Outside to a specialist. But the old trapper hadn't been sick a day in his life, except for colds and hangovers after a spree. He firmly be-

lieved hospitals were a place you went to only when you were ready to die.

But whenever his stomach “acted up” as he termed it, he wasn't fit to live with. He would fly off the handle and cuss out Mike. When Mike wouldn't fight back, Old Man Endicott would ride him until he finally hit the ceiling, then they had it hot and heavy. It usually ended up by Mike tramping the forty miles to Cold Deck and getting tight on moonshine. At such times, Mike loved everyone until Old Man Endicott's unreasonableness was mentioned, then he would growl, “I'll murder that old cuss, much as I love him, some of these days. He keeps at me until I see red. And when the jury hears the story it'll come in with a justifiable homicide verdict.” Everyone knew Mike Dutton was just talking, but Pete Laird had an

idea that if Old Man Endicott were murdered, a lot of people would remember what his partner had said.

Only one thing bothered Pete Laird after he had worked out details, and that was Jeff Conway, the deputy United States marshal at Cold Deck. Everyone knew he was hell on wheels when it came to solving frontier crimes. But Conway, like Endicott, was getting on in years. His brain was as active as ever, but his legs would no longer carry him to the scene of the crime.

When young Dan Murdock relieved Conway of his duties at Cold Deck, Pete Laird was confident his circle of good luck was complete.

Dan was young and ambitious to make good. He would break his neck to clear up his first murder case. Pete reasoned that Dan would be quick to jump at conclusions and would arrest and hold Mike Dutton in short order, then gather the evidence. Well, Pete Laird grinned to himself as he sat in his cabin working out minor details. He expected to give Dan Murdock all the evidence he

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PETE Laird was a lazy man. Sometimes it was too much trouble to feed his dogs and he skipped a day. It was much easier to put an empty can under the leaky spot in the roof, than to climb up and make the repair. Thus he had three cans on the cabin floor, and as they were of different size, different sounds resulted when rain water fell into them. One went “Pink-pink-pink” all night long; another went “plop” at long intervals—the leak being small and it taking some time for sufficient water to form a big drop. The third was a lazy “plunking” sound.

The lower hinge on the cabin door was broken. He had another hinge on a piece from a broken door, but he never got around to taking out the screws and transferring the hinge to the cabin door where it would do some good.

When Pete Laird was a shiftless kid, his father used to say, “Pete, your carelessness will be the death of you yet.” He must have said it a thousand times. It was one of the few things he could remember about his father, who worked from dawn to darkness on the farm and never quite got rested up.

Now at the age of twenty-seven Pete Laird was taking his father's advice. He was going to commit murder and make a careful job of it. He had thought everything through to the end. He had considered every detail, such as disposal of the body and turning suspicion toward another man. He was going to kill Old Man Endicott; plant evidence that would convict Endicott's young partner, Mike Dutton, of the crime; then take over the Mink River trapping area.

Old Man Endicott had packed over the Chilkoot Pass in Ninety-eight, whip-sawed lumber and built a boat at Lake Lindeman, then followed the ice down the Yukon with thousands of others. The ground he staked turned out to be hungry ground, so he went to work for a man who took a million dollars from ground five hundred yards from his worthless claim. He was Young Endicott in those days.

After that, Endicott trapped and prospected until he became Old Man Endicott. He decided it was high time he got into something that would support him and he had an idea fur could be treated as a crop, from which a man could reap the annual harvest, as in corn, wheat or anything else.

No one wanted the Mink River country because it was over-trapped. Old Man Endicott moved in and his first job was to trap the predators—wolverines, wolves and coyotes. In the meantime he had lived off the land, refusing to trap mink, or the beaver increasing at two big dams they had built. Those were pretty lean years, and Old Man Endicott got mighty sick of eating salmon fresh, salmon salted down in kegs and salmon dried.

One day he realized he was in the money—that he would always be in the money as long as he kept the predators out and never over-trapped. In time he realized he wasn't going to live forever and that it might be a good idea if he brought in a partner—some young fellow who would feel about Mink River fur as Old Man Endicott did.

The region, the old man decided, with its annual

The Nicked Edge

by FRANK RICHARDSON PIERCE

Illustrated by George Shane

crop of fur would be a sort of monument to his memory. It was better than a marble shaft stuck up in some cemetery for birds to sit on and the weather to tarnish.

IT took him three years to find exactly the right man, but when Mike Dutton came along with his Irish grin, his quick temper and equally quick way of apologizing when he was in the wrong, Old Man Endicott said, “You're just the ticket. And you can do what I'm too old to do—branch out, and treat fur as a crop on a large scale. It takes time



THE autumn day was breaking, and the smell of smoldering forest fires and ripe leaves was in the air when Mother called.

"I heard Old Gabriel gobble from the knob," she said. "You

can look out for that trifling Benny Ames to be coming for you."

I jumped out of bed and ran to the window. I looked toward Benny Ames' cabin. He lived across the creek from our house, and he was coming already. He'd heard the old gobbler. Benny was running across the creek bottom from his cabin toward the foot log. He had his rifle in one hand and was buttoning his blue shirt with the other as he ran.

I started jerking on my shirt and shoes, and while I did, I heard Old Gabriel gobble—a deep, rich, roaring, strutting voice that seemed to roll across the earth. From the crest of Buckhorn Mountain the old gobbler strutted and roared forth his challenge; it was tempting enough to make a hunter turn over in his grave.

Even before I got my shoes laced, Benny Ames whistled for me. He was scaling the fences and taking all the near cuts up through our fields.

MOTHER didn't argue this time. I think that was because she wanted the calves salted. She pitched me a bag of salt. "You going with him?" she said. "Take this salt to the calves . . ."

She always had something in our mountain fields to be looked after and it was half a mile up to our mountain barn; anybody going that way, she always sent something to the animals.

I took out after Benny. He didn't stop and wait. I had to outrun him, and catch up, and he waved me with his hand to stay behind.

Benny Ames was a hard man to keep up with when he had the sound of a wild turkey in his ears and the smell of fall in his nose. Benny Ames was slim and tall, always punched new holes in his belt that seemed to be around him one time and a half, and he could scale rocks and logs and dart and duck through laurel thickets with no more noise than a panther.

But, except for the work she got out of him, my mother didn't care for Benny Ames. She didn't like his way of living and hunting. Benny hunted in season and out, never paying any attention about such things as licenses and laws, nor they him. He seemed a part of the woods he had roamed. Benny was in his thirties now, and folks said he practically lived on wild game, but to me he was a kind of hero. I liked to watch how he could get through the woods, and I liked to watch him shoot. He'd send me to set up a piece of plank.

"No need to make a spot," he'd say. "I'll make my spot."

Then he'd stand sixty yards back, offhand, and shoot a hole through the board. He had blue-ringed eyes that were as keen as any hawk's, and he could see that first bullet hole, and he'd shoot again, maybe just widening the hole in the board a little, and after a dozen shots, you could stick only one finger through the board. But keen as were his eyes, and cunning as his ways, Benny Ames had been outwitted by Old Gabriel for ten years.

It wasn't that Benny Ames was not a great turkey hunter. He was. That's one reason my mother didn't like him. She said she'd flushed that gang of wild turkeys when she'd go to Buckhorn Mountain

How Benny Ames came to match his wits and huntsman's skill against a wild old gobbler.



Old Gabriel flew from one of the tall pines down on the mountain.

A TASTE OF OLD GABRIEL by MARK HAGER

to pick up chestnuts before I was born, and she said there must have been no less than fifty in the gang. Benny Ames had killed them down to this one lone survivor, who still roared forth his challenge to Benny from the crest of smoky old Buckhorn Mountain.

IN fact, people in our neighborhood who had seen Old Gabriel, and who knew Benny Ames as a hunter, said the gobbler must have a charmed life.

Benny Ames admitted he had shot at Old Gabriel no less than five times, but always at a great distance, and so far as he could tell, he'd never drawn a feather.

Benny argued the old gobbler could see in the dark. He based that on the time he watched the gobbler fly up in a spruce pine to roost at dusk one evening. Benny said he was several hundred yards away, but saw him fly into the pine and conceal himself in the darkness of the pine needles, and Benny slipped away and slipped back an hour before daylight in the hopes of shooting him from the pine, but when daylight came, Old Gabriel wasn't in the pine. The wary old bird had either seen or heard Benny and he had changed his roosting place.

But I'd never laid eyes on Old Gabriel yet. Mother declared she'd seen him. She claimed she

saw him one time with her tame turkey hens around our old barn up on the side of Buckhorn Mountain. She thought that was because Benny had killed all of the old gobbler's flock, and he was lonely, and maybe he got hungry. She said she remembered there was no mast that year, and wild turkeys frequented the outfields on the high ridges.

As me and Benny ducked under the laurel bushes and scaled the steps of Buckhorn under the crest that morning, I was having visions of Old Gabriel.

I wondered how much like a tame turkey he would look. Benny had said he was big as two tame gobblers, but I couldn't yet imagine how a turkey like that would look, and Benny said a wild turkey's eyes were almost in the top of their heads so they could see up and all directions at the same time.

Just before we reached the crest of the mountain, Old Gabriel gobbled. It seemed to shake the yellow and crimson leaves that still clung to the blackjack bushes and the scrubby larks near the top of the mountain. Benny went down on his belly and motioned me to come down. Benny always said he could hear better with his ear to the ground. For a few minutes we just lay on our

(Turn to page 92)



THE story of New Salem is an oft-told tale. It is the classic example of how livestock farming saved a North Dakota dry farming community in times of crop failure. It has been told from Texas to Alberta to encourage diversification on dry land farms, and has doubtless impressed millions of hearers. It was published in this magazine 30 years ago. Since that time drought and depression have come and gone, making a strong impact on farm practices. Your reporter revisited New Salem last summer anxious to see if the doctrine of security through livestock raising had the same validity today. The answer is "Yes."

Let's go back and refresh our memories with the story as it was first told.

In the late '70's the Northern Pacific Railway stretched its gleaming ribbons westward across what is now the American spring wheat country. The surging tide of settlement kept abreast of the railroaders. The German Evangelical church conceived the idea of a Dakota colony peopled by the faithful and induced a large number of families to go out in the spring of '83.

This group left the railway, and the last cultivated farms at Bismarck, now the state capital. The very name gives a clue to the character of the immigration tide flowing through it. In Europe the Iron Chancellor was bending princes and prelates to his will. In North Dakota his countrymen were winning a larger empire by the exercise of the better qualities in Bismarck and the nation whose patient strength sustained him.

THE colony of evangelicals headed straight west, angling over the great rolling hills that hem in the Missouri, and halted on the rich plateau beyond, then a sea of grass traversed only by buffalo herds. Here they built their church with its surrounding cluster of frontier huts. With bounding hopes they planted their first crop, potatoes and oats. The bustle of industry went on with an enthusiasm which can never be understood by those who have not experienced pioneer life.

Summer and harvest brought disillusionment. They had been caught by the first year of a dry cycle. Over half the colony returned to civilization before the Dakota winter set in. Many of the men went into the Minnesota lumber woods. A few remained to protect the settlement from the encircling Mandans and Sioux tribesmen.

But a common language, race and religion is a strong cement. The wayfarers came back to the settlement with their winter's savings. The burgeoning vigor of the northern spring restored their courage. The first wheat crop went into the ground with undiminished hope. But evil fortune persisted. Hot winds blasted the growing grain and scattered the men folk as before.

And so it went in varying degree until the summer of 1891. By this time their spirits were broken and they were reduced to the direst poverty. Only the exhortations of their religious leaders kept the colony together. The good crop of 1891 came just in the nick of time.

On the verge of the state highway just east of New Salem a large native boulder has been mounted on a concrete base to commemorate an incident that did much to shape the history of this settlement. In the spring of '83, John Christianson, then not much more than a boy, was breaking sod for grain planting, when a solitary Indian rode over to remonstrate with him. The Indian made known to the plowman in the best way he could that he was turning the sod the wrong way up. No good could come of



New Salem

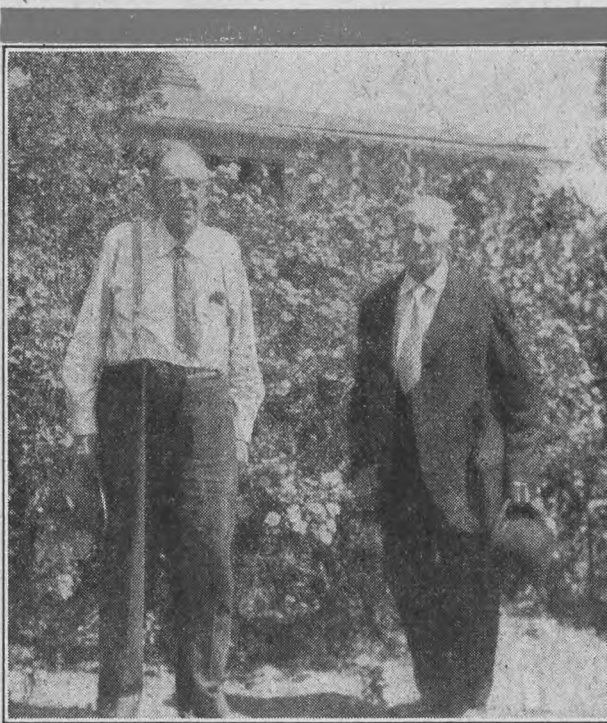
REVISITED

by P. M. ABEL

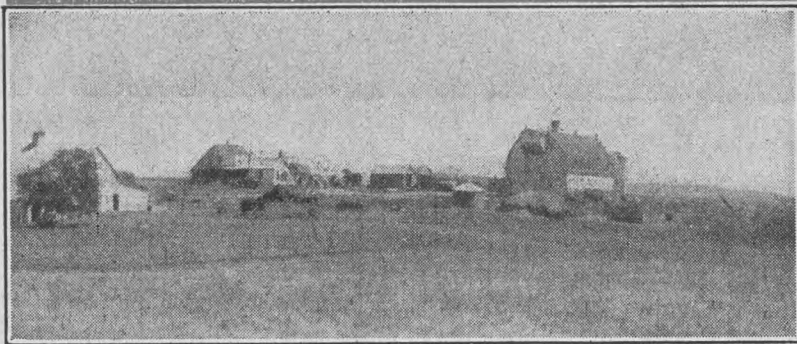
The wording on the bronze plaque affixed to this monument reads:

"WRONG SIDE UP"

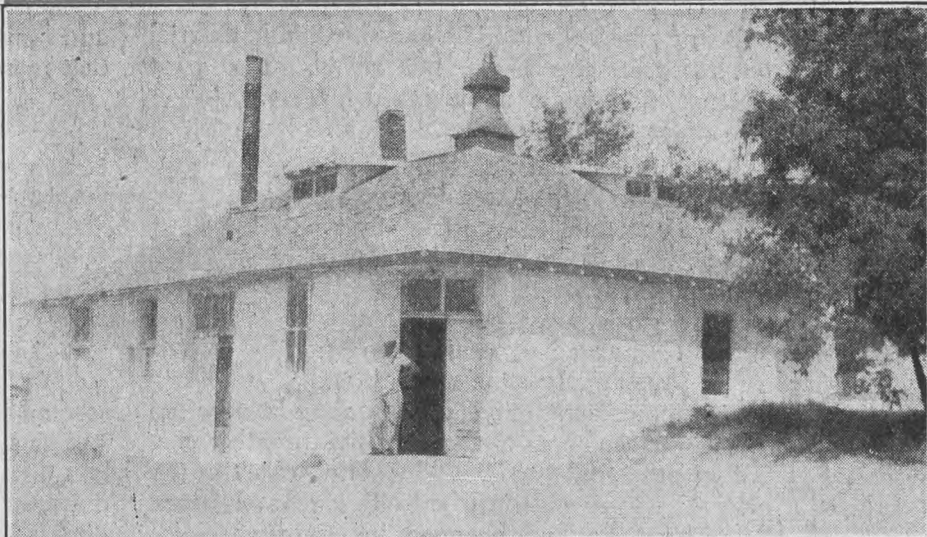
These words were spoken to John Christianson on this spot in the year 1883 by a Sioux Indian. John was plowing under the prairie grass. Pondering this phrase made New Salem a successful dairy centre.



Two old-timers; left, Peter Buman; right, Herman H. Kroeger.



The farm of Frank Gaby, John Christianson's son-in-law.



The creamery which hasn't missed a pay-day in 55 years.

it. The conversation was relayed to the elders and bore fruit in years to come.

When the settlers first went to New Salem they had taken a few scrub cows with them. Even in the years of extremest crop failure these cows managed to subsist on the wiry, but nutritious, prairie wool. There was always milk for all, their calves provided meat, and the surplus butter could be sold for eight cents a pound when there was no other product to sell. In the good crop years of '91 and '92 the income from cattle looked

trifling but the settlers never forgot that the cows were a lifeline throughout the worst of the economic blizzard.

The respite from hard times was short-lived. The year 1893 brought another crop failure. The time had come to cast up accounts. Obviously they had to change their farming methods or abandon the settlement. Perhaps the old Indian was right. Perhaps grass would assure them greater permanence than bare baked fields. Perhaps cattle would free them from the fickleness of the climate.

THE whole community participated in the momentous decision to give it a try. The first requirement was a creamery, for all the butter up to that time had been made by the women in kitchen churns. The business men of the town, slimmed down to working proportions by many lean years, offered to mix mortar and carry hods if the farmers would haul in stone picked off local fields. By 1894 the creamery was in operation, a plant which has never missed a pay-day from that day to this.

The erection of the creamery was a turning point in the history of New Salem. It did not create fortunes, but it satisfied the ambitions of that time to found secure homes. Around them grew a model of a better Germany, where conscription and the encroachments of industry were unknown. Throughout the semi-arid portion of North Dakota there are few localities which show the same evidences of economic well-being.

The livestock business got the serious attention of the farmers of New Salem. In due course they established cow testing. Poor cattle were weeded out and the standard of productivity rose rapidly. In 1906, in conjunction with the state agricultural college they established a community breeding centre. Holsteins became the order of the day. Fourteen of the leading farmers bought a few purebred females, and high grade bull service was arranged. A drove of magpies in country designed for Herefords and coyotes! New Salem became the nation's show place in demonstrating what the dairy cow could do for a semi-arid prairie community. It served a useful propaganda purpose in the reconstruction days of the early '20's. In the fullness of time the dry country turned to new problems. New Salem became an old book on the shelf.

My interest in New Salem was revived in a conversation last summer with Dr. H. L. Walster, dean of the agricultural college at Fargo, at the opposite end of the state. He was engaged in collecting statistics on the average wheat yields of the various counties in the state.

Morton county, in which New Salem is located, presents a record not too enviable. For a 35-year period it has averaged only 10 bushels per acre. It had only one crop over 10 bushels in the 12-year period 1929-1940. From 1933 to the outbreak of war it was below 10 bushels all the time and below five bushels half the time. Apparently it had come through a cycle similar to that which dogged the early settlers. (Turn to page 46)



An 8.2 h.p. tractor, claimed to travel 60 miles per gallon of fuel at a top speed of 30 m.p.h.

TRENDS in Farm Machines



Rear-mounted hydraulic tractor crane, a convenient accessory. Centre: Automatic pick-up baler.



by R. G. MARTIN

The year 1949 promises to set a new peak in the advancement of farm mechanization. An additional 7,000 farms in the three prairie provinces will get line power and tractor sales may exceed 25,000.

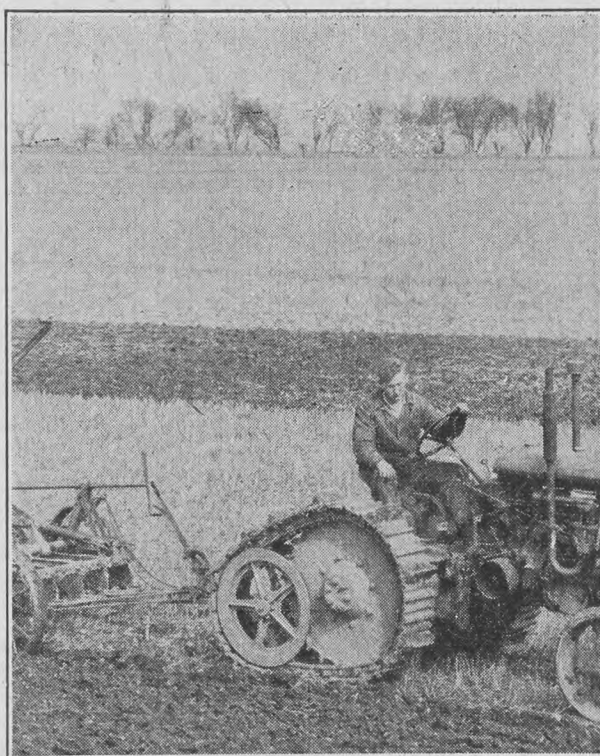
A CENTURY ago, an American farm worker, using the tools at hand, produced enough food for himself and for three other persons. In 1847 Cyrus McCormick perfected and produced the first mechanical reaper. This marked the true beginning of the revolution in agricultural production which is still establishing new peaks in 1949. Today each farm worker is capable of producing enough food for his own healthy appetite and for the appetites of 13½ other citizens as well.

The mechanization of farming has been accompanied and accentuated by technological advances in growing and processing the foodstuffs which are served at our tables. Thus crops of grain ripen in a shorter growing season with less danger of frost damage, rust infection or insect infestation and a resulting higher yield. Well-bred dairy cows produce more milk per ton of feed. The grain and milk thus produced in greater quantity is sufficient to feed more people and is processed to give better and more nourishment.

Probably the greatest advance in mechanization has been the improvement of the internal combustion engine and the modern tractor. A bulletin of the United States Department of Agriculture dated 1915 says: "A careful study . . . shows clearly that the rapid growth of the gas tractor was not due to its superiority over horses, but to the fact that large tracts of land were opened in the West, and that sufficient horses were not available . . ." It is surprising to read further: "Whether these machines retain the ground thus opened to them remains to be seen. Under similar conditions in other states (than Kansas) they have not done so, indicating that they are not as satisfactory as hoped for farm work, or are more expensive."

THE popularity of the modern tractor can be attributed to increases in efficiency, maneuverability and convenience to the operator. The war use of high-octane fuels for marine, for tank and aircraft engines speeded up the increase in compression ratios. Distillate-burning tractors had compression ratios as low as 3½:1. With the development of fuels of high anti-knock qualities, higher compression pressures could be used. This necessitated the development of more efficient systems for removing the extreme amounts of heat produced. It also made it necessary to use high quality alloys to withstand the heat and pressure. Today, however, some diesel engines are using ratios of as high as 19.4:1, while one company has announced the development of a gasoline motor to operate at about 12:1. The power produced by units of this type is comparable to the power formerly generated by large steam and internal combustion engines of five and six times greater weight.

The tendency of tractor manufacturers to produce more compact power units with greater versatility has made them adaptable to use on the small farm



A British Fordson "Major" fitted with half tracks, an adaptation from military vehicles.

as well as on the large. Rubber tires increase efficiency by from 15 to 32 per cent. They also make the tractor suitable for roadwork and hauling jobs around the farm. One manufacturer is now producing a tractor capable of travelling at 32.4 miles per hour. Another advertises that his tractor will travel at 30 miles per hour and go 60 miles on a gallon of fuel. Thus the market garden and the truck farm can make good use of a tractor as a power unit where horses have been standard equipment.

FURTHER adaptability of tractors to inter-tilled crops has been gained by using attached machinery. The operator is given better control of the implement and a better view of his work. One three-plow tractor has a rear-mounted motor, per-

mitting the operator to sit directly over the tillage equipment and have an unobstructed view. Hydraulic controls are being standardized to make them interchangeable and operative with any machine with the minimum of trouble to the operator in changing from one implement to another. The standards apply to trailing machines as well as to those which are attached.

Power take-offs and belt pulleys are now being equipped with what is called a "live drive." This means that they may be disengaged and engaged independently from the drive to the ground wheels. The auxiliary clutch to the power shaft and the belt pulley is being taken off at the flywheel and thus does not interfere with the tractor transmission.

It is often necessary to adjust the gauge of the tread of tractors used in inter-tilling work. One manufacturer is now mounting the wheel rim on a set of spiral bars which slide through clamps on the hub. To alter the distance between the rear wheels, the clamps on one wheel are loosened, the tractor put in gear and the clutch released while the wheel brake on the opposite side is applied. The power of the motor through the hub slides the wheel in or out on the ribs and the clamps are tightened to lock it in place.

Operator comfort and convenience is being stressed by all manufacturers. Seats are being mounted on hydraulic shock absorbers. One model has a steering wheel adjustable for length to the most convenient position. Radios have been sold on at least one make of tractor and electric starters and lights are now considered to be essential by many. Cabs for keeping out the sun, wind and rain in the summer and the cold in winter, add to the comfort of the driver.

NOT all farm operators are expert mechanics. Thus, to meet the demands of the inexperienced who wish to use tractor power, the industry has simplified the maintenance and servicing of the machines. Large-capacity air cleaners and oil filters, which require much less attention than their forerunners, are being used with improved efficiency. Greasing may be done with a grease gun in a few minutes per day. The durability and reliability of the units is such that most of them will operate for a complete season with little but maintenance attention. The tractor is then taken in once a year to a qualified mechanic for its annual overhaul.

Two lines of machinery seem to be receiving a great deal of attention from both manufacturers and buyers. Weed and insect spraying machines have come forward in a great variety of types and sizes. The development of new and more effective herbicides and insecticides has hastened this natural progress of machinery. The new models now are being made adaptable to various types of general spraying work around the farm, including livestock spraying, whitewashing and (Turn to page 62)



Dr. E. C. Hope, C.F.A.'s economist.

Fair Basis For Parity

by E. C. HOPE

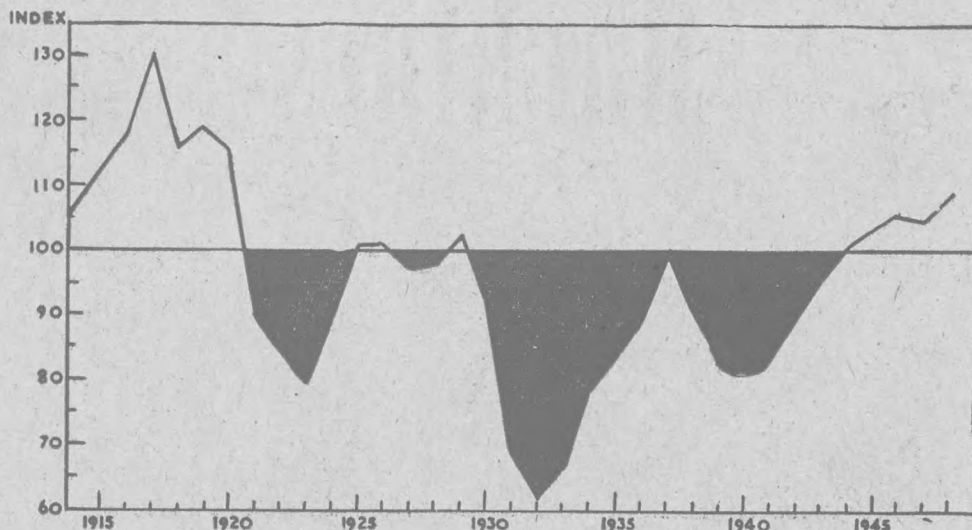


Chart 1: Showing the purchasing power of farm products from 1913 to 1948, in terms of farm costs, when the base period is 1925-29.

An argument that 1935-39 price comparisons are unfair to agriculture and that 1925-29 would be fairer.

to measure the present position from the past base period of balance because conditions may have changed.

The problem of choosing a base period for measuring balance in the price structure between agricultural and non-agricultural prices is not only an academic problem of interest to economists—but it is a very practical one. Regardless of what the economists say, all people—farm leaders, businessmen, labor leaders, and consumers—are going to use some base period which they consider as one of balance from which to measure mathematically their own present position.

If then we are faced with the popular demand and need for a base period of prices we must do the best we can with the available data to arrive at a reasonably satisfactory answer to the problem.

If we are going to use a base period for agriculture, we should choose some period between unusual farm prosperity and farm depression. It should also be a period somewhere between the highest industrial employment possible and the unemployment of depression times. It should be a period when international trade was moving fairly freely with as little friction as possible.

There are so many factors which affect the relationship between farm and non-farm prices that it would be impossible to pick on a single year as a base period and say that all the factors necessary

Last December the Canadian Federation of Agriculture submitted a brief to the Royal Commission on Prices, in which the C.F.A. attacked the 1935-39 basis of price comparisons used by the Dominion Bureau of Statistics and, instead, proposed 1925-29 as a base period fairer to agriculture. Because of the significant nature of this criticism, The Country Guide asked Dr. E. C. Hope, Economist for the C.F.A., to elaborate the question for our readers. Necessarily somewhat technical, the subject is extremely important to Canadian farmers if they are to be well-guided in their attitudes toward price floors, and farm prices in general. Dr. Hope was formerly head of the Department of Farm Management at the University of Saskatchewan.

for a fair balance were at an average level during that particular year. Moreover, it is unlikely that any single year has ever, even theoretically, been a year of perfect balance

between agricultural and non-agricultural prices. Since these price relationships are always moving away from balance, the best and safest thing to do is to choose a series of years and use the average of these years as a base period of average balance.

THE Dominion Bureau of Statistics does not publish a "non-agricultural prices" index, but by combining six official indices of different groups of non-agricultural commodities, we have been able to construct such an index. This index was divided each year into the index number for Canadian farm product prices at wholesale. This calculation gives what we may call the purchasing power of farm products in terms of prices for non-farm products. It tells us whether prices for farm products over a period of years have been rising or falling, compared with the prices of non-farm products.

The results of these calculations are shown in Chart 2, using both the five-year period 1925 to 1929 as 100 and the five-year period 1935 to 1939 as 100. The black silhouette figure shows the rise and fall of the purchasing power of farm products on the 1925 to 1929 base. Three trends of purchasing power are noticeable. From 1890 to about 1917 the trend of purchasing power was rising. It rose from about 70 in 1890 to about 115 in 1917. Then the trend was reversed, falling from 115 in 1917 to about 70 in 1932 as a trend value. From 1932 the trend was again reversed, rising from 70 in 1932 and ending in a trend level about 105 in 1948.

The post-war trend level of 105 in 1948 was lower than the level of 115 reached in 1917, which might lead one to believe that prices for farm products are gradually losing in purchasing power compared with non-farm prices.

But the two war and post-war periods, 1914 to 1920 and 1940 to 1948 are not directly comparable, since prices were relatively free in the first period, but largely under control in the second period. If we had been under a free price system (without government controls), from 1941 to 1948, there is a strong likelihood that the purchasing power of the prices of farm products would have been considerably higher than they actually were for this period.

The evidence of these price ratios does not show that over the 58 years there has been any consistent long-term trend of purchasing power in the prices for farm products. But it does

(Turn to page 32)

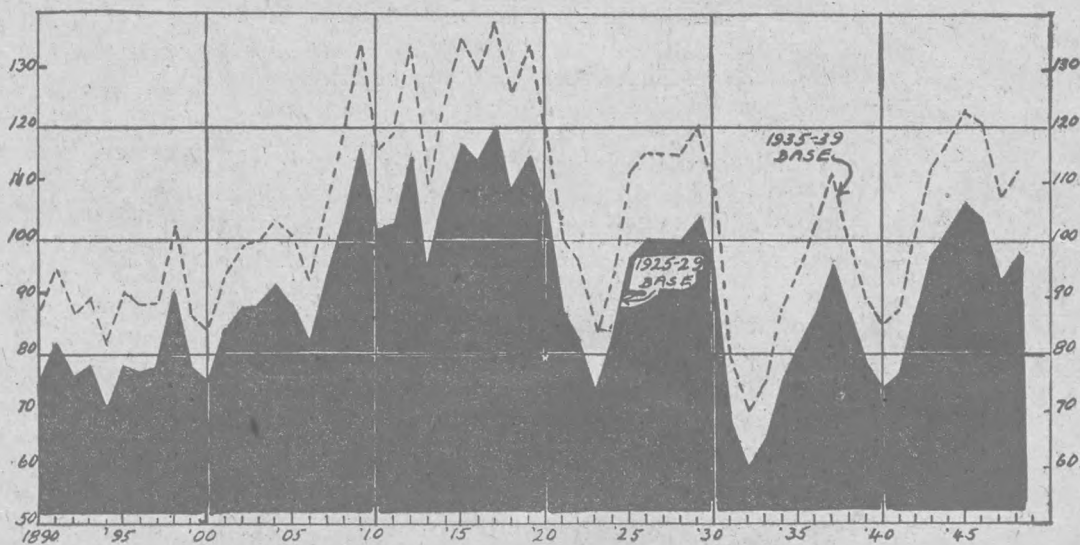


Chart 2: Showing the changes in farm purchasing power from 1890 to 1948 in terms of non-farm prices, when (A) the average of the 1925-29 period is taken as 100 (upper edge of solid black portion) and (B) when the average of the 1935-39 period is 100 (dotted line).

IT is chiefly because of this difficulty that economists, as a rule, look with scepticism at any statistical attempt to show the relative position of agriculture by means of a comparison of prices. They might agree as to when prices for farm products are very low compared with non-farm prices and when they are very high compared with non-farm prices. But because the in-between point of fair balance cannot be determined exactly they view with disfavor any attempt to state a given period as one of balance. Moreover they often point out that even if a period in the past could be agreed upon as being a period of balance, it would be unsound

From Pasture to Packer

by RALPH HEDLIN

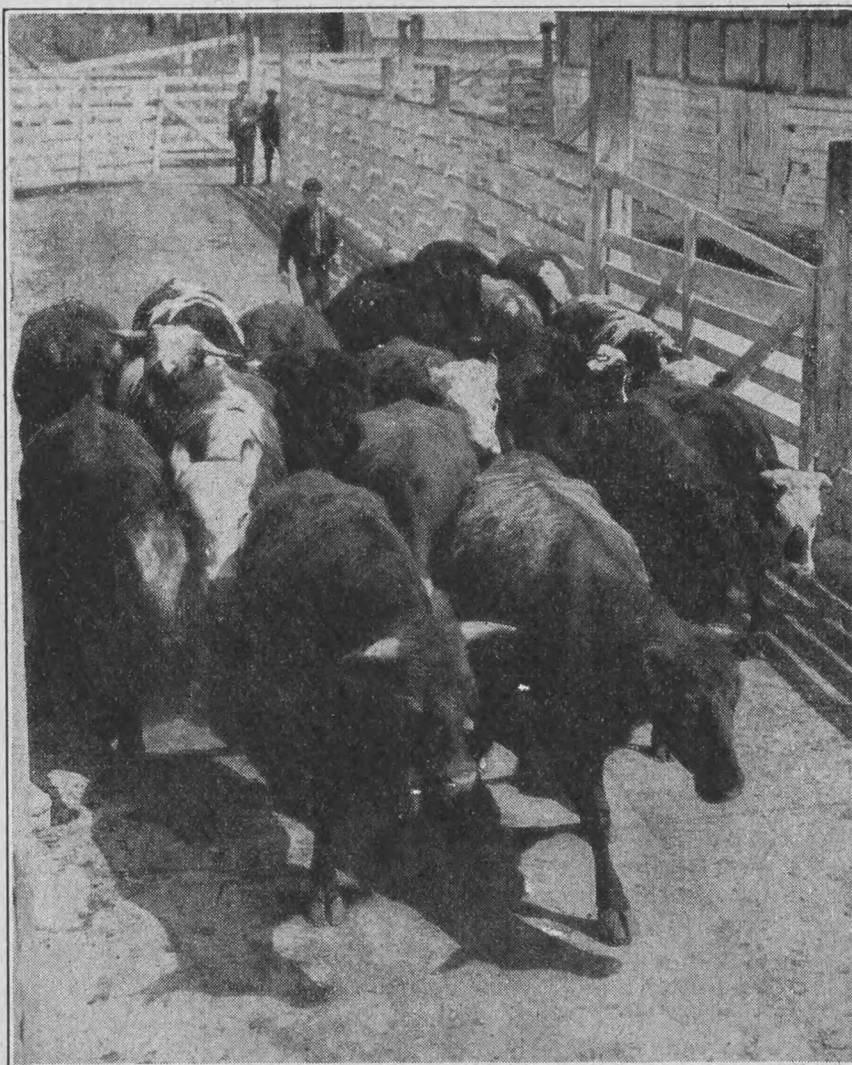
BEFORE the white settlers came to western Canada, the Indians of the plains country followed the buffalo herds. They could ill afford to be far from their meat supply. The settlers, as the term implies, were tied to one place and were therefore unable to follow the herds. They were not nomads, but farmers, and soon introduced livestock and produced enough for their own needs. As cities developed, the townspeople were unable to produce their own livestock. The Indian's method of obtaining food had finally been completely reversed. It had become necessary to make the food follow the people.

This change in procedure has very broad implications. Some parts of Canada are surplus areas of livestock, producing more than they consume. As a whole western Canada falls into this category. The east is a deficit area; it has to import a substantial part of its meat supplies from other regions, chiefly western Canada. Taking Canada as a whole it is a surplus area. We are forced to look to markets in other parts of the world for our surplus meat, and, if we are to compete with producers in Australia, Argentina and other parts of the world it means that our livestock must be raised, transported and processed as cheaply and in as good condition as possible.

The wide separation of producing and consuming areas made extensive marketing machinery necessary. Livestock that are produced on western farms must be moved into distant markets. This necessitates the use of trucks and trains, stockyards, commission firms and packing plants. It is a matter of some interest to look at a few of these marketing institutions that lie closest to the farmers and are concerned with moving the livestock from the farm into the stockyards and market.

THERE are a variety of ways in which livestock can be moved off the farm. The most direct is the one in which the farmer loads his livestock into a truck and sells to a packing house. Alternatively a farmer can load his own car and ship the livestock directly to a packing firm or bill them to a commission firm who will sell them for him. A third method by which a farmer can keep title to his cattle until they are sold to the packers is through co-operative shipping. If this method is followed a number of farmers assemble their cattle at the shipping point, have their own cattle marked, and ship them through a co-operative marketing agency. Co-operative shipping is managed by the Alberta Livestock Co-op in Alberta and by the Manitoba and Saskatchewan Co-operative Livestock Producers in the other two provinces.

Livestock are also sold to drovers who travel the country and buy a few head on many farms until they have assembled a load. Packers' buyers frequently buy on the farm or ranch, particularly if an owner has a large number of livestock to sell. They will take delivery at the ranch or loading point or at the plant. Sometimes a group of ranchers or



Livestock are unloaded by stockyard employees and delivered to pens used by the commission firm, where they are fed, watered and sold.

Moving livestock from farmer to consumer is a huge, complicated business. In this article the handling of live market animals is explained.

farmers will arrange to auction stock at a railway loading point and packer buyers and others will come to bid. This is the same type of thing that is frequently done at the larger junior club field days and shows.

As far as the individual producer is concerned the method of sales he should adopt is the method that he is satisfied will bring him the largest net return.

Net returns can be reduced by abuse of livestock before or during shipping. Overloading cars or trucks is one form of abuse that leads to many thousands of dollars loss every year. Very often a car load will be going out and a farmer will come in with some livestock that were not expected. Too frequently they are just squeezed in and by the time they arrive at the stockyard some have perished. A case is reported in which a car was overcrowded with a mixed load of hogs and lambs, taken 15 miles to a central unloading point, unloaded no more than two hours after it was loaded, and 10 dead hogs were left in the car.

The same source states, "I saw lambs loaded in with hogs, and when the load arrived at the stockyards some of the lambs were half eaten up but still alive." This points up the necessity of partitions when mixed loads are shipped. Some shippers have a deck put into half or all of a car so that they can load sheep or hogs above and other stock below. This reduces bruising and crowding.

Bruising before and during transit also causes losses. If a hog is poked hard enough on the ham with the tip of an end-gate rod it may be necessary to core out the bruise to a depth of an inch and a half. What is bruised is wasted. The whole ham has a reduced value. Bruising as a result of striking animals with sticks by the loader or horning in the car by other animals also reduces values. A bull loose in a car will cause the greatest damage. Another standard way of reducing values is that of putting an animal

in a wagon box and bolting a chain over its back.

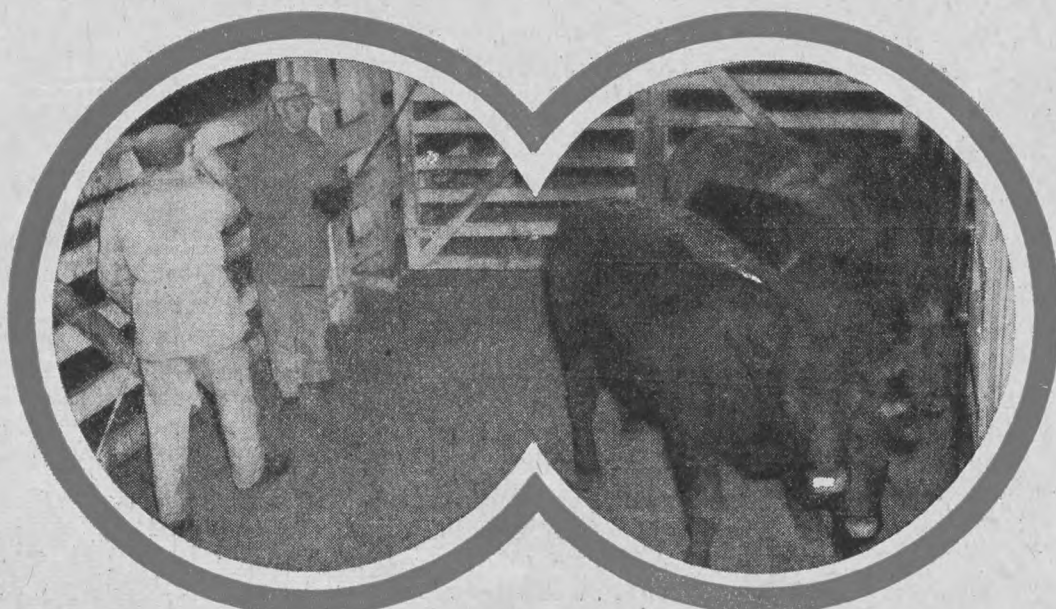
Not many of us realize that the treatment of animals on the way to market is covered by the criminal code. Under the Canadian law it is an offense "to carry any animal in such a manner or position as to cause any such animal any unnecessary suffering."

A VERY large part of the livestock marketed go to a central market. This consists of a public stockyard where buyers and sellers meet. The usual procedure is to have the packing plants located near to the stockyards so that livestock can be readily moved from the yard to slaughter. A farmer can sell his cattle through the stockyard himself or

have an agent sell them, or he can take them to the packing plant and sell them directly to the packers.

The public stockyards are designed to facilitate the movement of cattle from farmer to packer. The stockyard company owns unloading chutes for railway cars and trucks, and also pens and scales. The St. Boniface stockyard alone has 50 unloading chutes for cars, has 1,200 holding pens and seven platform scales. In 1948 a total of 20,170 cars were delivered to this stockyard. A total of 488,896 cattle, 113,770 calves, 106,703 hogs, 122,639 sheep and 26,992 horses were passed through the yards.

Livestock that come to the stockyard are usually billed to a



Jimmy Gibson, right, head cattle salesman for the Livestock Co-op, selling a load from Hamiota, Man., to Harry Crane, buyer for the O.K. Packing Company.

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Tracks in the Sage

by Stephen Payne

The two old cattlemen had been squabbling over a common range as long as Annette could remember. Now John Marr had done something to rile her father, James Foster, as never before—forms the theme of the opening chapter of thrilling new three-part serial.



THE kitchen there on the Slash F ranch was simmering hot on this bright July afternoon, but Annette Foster didn't notice the heat. She had built up the wood fire and was baking pies and a cake in a sort of frantic effort to forget the mental upset and the uneasiness crowding her mind.

Heretofore when there was serious trouble brewing between Slash F and Cross M she had been able to dismiss her worry by plunging into hard work either indoors or outdoors. Today she found no relief whatever. Try as she did to keep from straining her pretty, grey-green eyes out across the meadow valley of Slash F and the tumbled sage hills beyond the river bluffs, she was always rushing to the open door and looking, looking westward into the rangeland's distance.

Surely Donald Marr would come to say goodbye. Don wouldn't just ride away without a word, as Curly Bent, a Slash F hand who faithfully reported to Annette all the news he heard from Cross M, had said Don must have done.

Surely, too, Daddy Jim Foster would soon be coming home, unless—Annette didn't want to think about that unless; it was too starkly terrifying. But just before he rode away Dad Foster had been chewing one end of his thin, brown mustache, the corners of his stubborn mouth were turned down, and his faded old eyes had become bleak and hard and frightening.

ANNETTE had seen him out of temper many times with their neighbors on Cross M, which meant, specifically, with old John Clayton Marr. Dad seldom spoke of Marr by name. He was "that damned ornery, cantankerous, bull-headed Scot." And John Marr, as Annette knew, spoke even less kindly of her own father, both behind his back and directly to his face.

The two knotty, case-hardened old cowmen had been squabbling for as long as blonde Annette, now twenty-one, could remember. They grazed their herds on the same range, a vast chunk of open land lying between the two ranches, and each spring, summer and autumn they squabbled about that range, each owner jealously watching the other to see he didn't slip something over.

But somehow, until today, they had always avoided a knock-down-and-drag-out fight. Now at last, however, John Clayton Marr had done something to rile James Foster as never before. Early this spring Marr had brought in six purebred Aberdeen-Angus bulls, for Marr, who hailed originally from Scotland, loved the "doddies," and had threatened for years to make this change from Herefords to black Angus cattle.

Foster, however, would be damned if he wanted a lot of black cattle with splotched black and white faces to grow into his almost straight white-faced herd. It was one of those thorny problems rangemen understand well, and he had warned Marr:

"Don't you turn those black bulls on our range."

Possibly because he had not wanted a slowdown at the time, Marr had hedged. "Now I might be planning to raise an Angus herd under fence. Which will be nothing to you, Jim."

There the matter had rested until before noon of this mid-July day. Then Curly Bent, who'd been riding range, had come home to the Slash F with his horse a-lather, and Annette had heard him shout to her father, busy in the blacksmith shop, "Ho, Jim! Marr's turned them black critters out and he's spilt 'em all across the range!"

Jim Foster asked no questions. Instead, he stamped to the house, all storm signals flying, his lean, corded neck bowed like a bull's. As he grabbed his Winchester from wall pegs, Annette had clutched his arm.

"Daddy, don't do anything silly. I'll go with you to see that you and . . ."

He'd brushed her aside roughly. "Stay home, girl. This is man's business. Stay home or I'll get really mad," as if he wasn't "really mad" already.

Helplessly, Annette, her rosy cheeks gone white, had watched her father climb stiffly to his saddle and ride out.

CURLY had slouched to the house then and given Annette the second barrel of bad news, this almost as shocking as the first, yet in an entirely different way. Curly knew how the girl and Donald Marr had been meeting on the range, at neighbors' ranches, and in town. Furthermore, Curly, who was as loyal to the girl of Slash F as old Timberline Johnson of Cross M was to John Clayton Marr's only son, realized the young folks were very much that way about one another.

Curly said with studied casualness, "I got this from one of the Cross M boys, Biff Sloan: Don and his old man had one hell—one heck of a row yesterday evenin' . . . This time Don couldn't take it, seems like. He's punched a hole in the wind . . . Old cantanker—should I say Mr. Marr?—is going

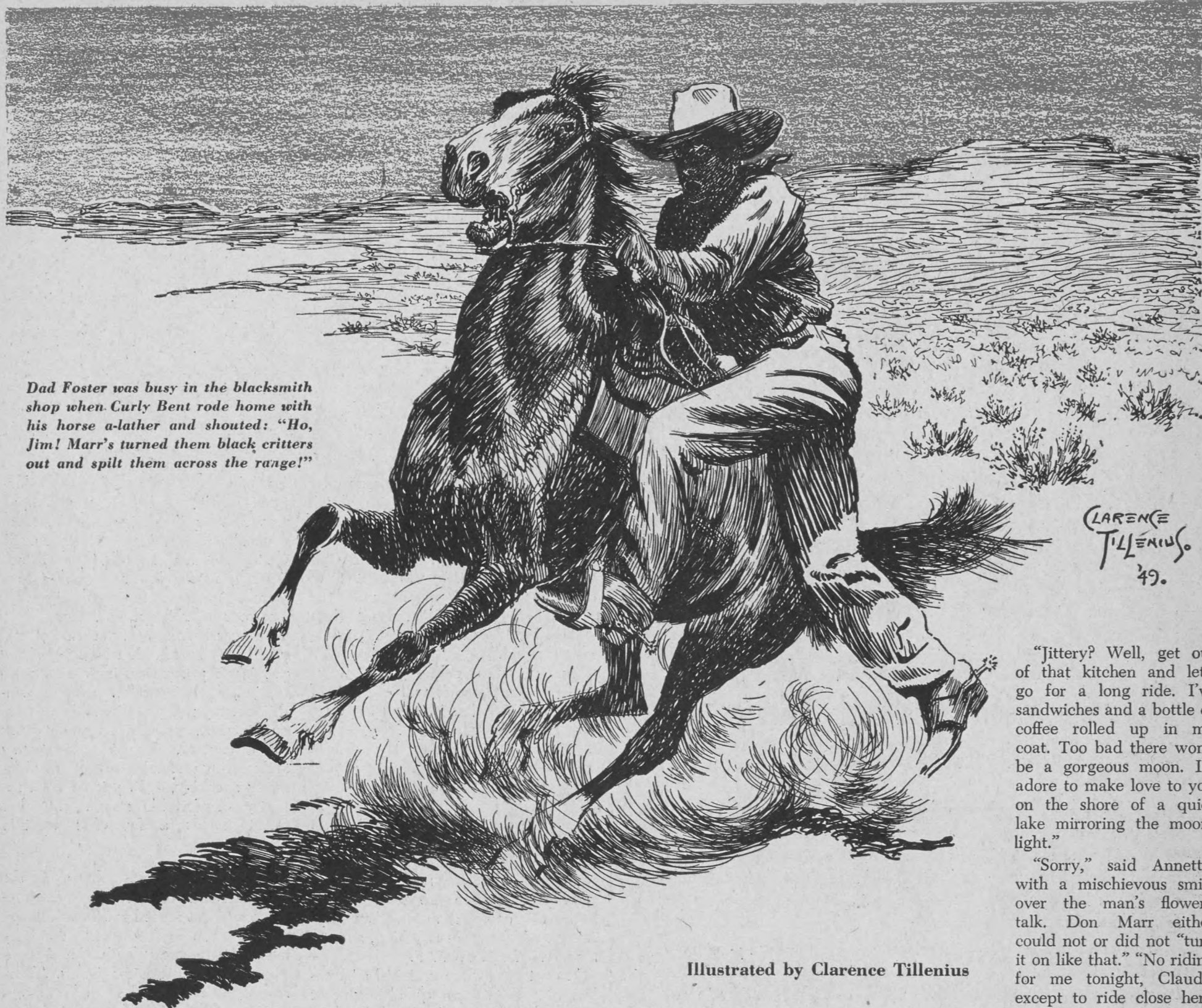
around with his face froze and not sayin' a word, but actin' like he'll bite himself if nothin' else shows up to bite."

The news didn't hit Annette very hard at first. She asked for details. Curly could give none at all. Cross M cowboy Biff Sloan hadn't known what the father and son had quarreled about, hadn't known where Don intended going, or if he would be back.

Later, however, after Curly had gone to work again, the emotional angle of her problems had begun to take its bitter hold on Annette's frayed nerves. Don had gone without saying goodbye! It hurt so deeply that if she had not realized till now her own tender feelings toward the black-haired, almost black-eyed, strapping young man, full realization of all he meant in her life was now brought home. Was the thread of the romance which had taken root and grown and blossomed in the shadow of a silly, yet tragic, feud to be snapped as if it were nothing?

The sun was dipping toward the high mountain-palisaded horizon, and Annette, shading her eyes against its glare as she looked far into the distance, lost track of time and burned two precious pies until they were charred and worthless.

She was scraping them out of the pans when a patter of hoofs sounded from the opposite direction,



Dad Foster was busy in the blacksmith shop when Curly Bent rode home with his horse a-lather and shouted: "Ho, Jim! Marr's turned them black critters out and spilt them across the range!"

Illustrated by Clarence Tillenius

the east, and the girl of Slash F wasn't quite sure whether to be glad or sorry to see Claude Ormond arriving on his wonder black horse. Mostly, she believed, she was glad, and certainly she was relieved.

SHE could talk freely to Claude Ormond about ranch problems, for Claude, like Don Marr, was definitely courting the girl of Slash F. He had been, in fact, giving her a great rush, and had twice proposed. But of course Annette was too femininely clever to reveal to either young man his exact status, or to exhibit her heart on her sleeves. And, to be perfectly honest, there really were times when she didn't know which she liked the better.

Don, with his big-shouldered, rough-hewn body and his equally rough-hewn, strong, dark face, had a shade the best of Claude in physique. Yet Claude, tall, trim and blond, had it all over the Scotchman's son in education and polish and the ability to see through a thing in a twinkling. He was clever, and had proved he was a sharp business man. On the other hand, Don Marr was inherently shrewd, and when she was with him she felt he was substantial.

If it came to a showdown, which would she choose, Annette was asking herself as she watched Claude Ormond swing down and tie his black, and then step eagerly toward the house.

Claude always wore laundered shirts and flashy neckties. He now pushed his wide-brimmed, flat-crowned black hat back on his high forehead, and Annette noticed once again his wavy brown hair, sharp blue eyes and tight-lipped mouth. Claude was in the real estate business there in Elkmont town, and it was rumored he had money. But if he

had, he never made investments of his own. He contented himself with acting as an agent, a go-between for buyer and seller.

Sometimes Annette twitted him about his lack of ambition, inasmuch as he seemed very contented to remain in the sleepy, piddling cow town where he roomed and boarded at Elkmont's only hotel.

He said, smiling. "You're the most beautiful cook I've ever seen, Annette, with your face all flushed from being near the stove, and—Eum?" sniffing, "don't I smell something burning?"

Annette laughed. "Don't be so darned precise, Claude. I've burned a couple of pies. But what's a pie compared to the fire that's been lighted on our range?"

Ormond moved closer to her. She was standing on the doorsill at floor level, and he had to look up at her. "What do you mean?"

HER words poured out in a gusty rush. "Marr has turned those black bulls on the range, and Daddy Foster has gone to call him, and I'm scared stiff that—Oh!" a sudden joyful lift to her voice. "Yonder he comes now! I guess—I guess, Claude those two old war horses took it out as usual in a red-hot word battle."

"Another exchange of scurrilous insults?" said Claude Ormond. "They're a joke in Elkmont, those two funny old men. They act so savage and blood-thirsty, but—"

"Don't joke about it, Claude. I'm always afraid one or the other will sometime go savage and blood-thirsty . . . Now I'm so darned relieved to see Dad riding home that I've let down and I'm sort of all jittery inside."

"Jittery? Well, get out of that kitchen and let's go for a long ride. I've sandwiches and a bottle of coffee rolled up in my coat. Too bad there won't be a gorgeous moon. I'd adore to make love to you on the shore of a quiet lake mirroring the moonlight."

"Sorry," said Annette, with a mischievous smile over the man's flowery talk. Don Marr either could not or did not "turn it on like that." "No riding for me tonight, Claude, except to ride close herd on Dad . . . He was so

furious today I'm still shaking in my boots."

She darted around the young man from town and, graceful as a robin in flight, fled on light feet to the big, red-roofed stable where Jim Foster had reined up his horse. The rifle she noticed, was now tied on his saddle, and his rage was no longer apparent. On the contrary, his leathery, lined face wore a grim smile of triumph.

"Hi, daughter! Don't look so scared and upset. It's all hunky."

"What's all hunky, Dad?"

"Lo Claude. For once I'm glad to see you."

Claude Ormond had followed Annette. "Aren't you always glad to see me, Mr. Foster?" he answered, and his glance at the older man was a very sharp one.

Foster dismounted. "Speakin' plain, I ain't always glad to see a feller like you hangin' 'round my daughter. You don't work enough to make a hit with me, and while I've heard you're a smart business man, it just might be you're one of them fortune-hunters."

"Daddy!" Annette put in, crisply.

"Huh! I ain't pickin, on him—much," the cowman resumed. "Claude savvies I believe in sayin' what I think. But I'm feelin' pretty darned cocky right now. Feelin' good. By the way, Claude, a rumor got out that you sold the old Nought 9 ranch to a feller named Frank Sheppard. I've met Sheppard. He claims to have bought it, and claims he owns it."

"It's Sheppard's ranch all right," stated Ormond flatly. "I merely handled the transaction. I have no interest at all in the property. If that was what you meant to imply?"

(Turn to page 96)

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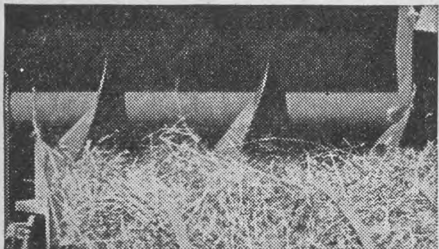
● You don't have to be an expert to use the Case Slicer-Baler. It is free from complicated mechanism—so simple that teen-age boys operate it. What's more, it's so moderate in price that most any farmer can afford to have his own.

With your own baler you can start baling the minute your hay is cured just right, before sun-bleach spoils color and vitamins, before over-curing causes leaves to shatter. You run less risk of rain, too.

You get firm, neat bales of uniform size with a Case Slicer-Baler. It uses the standard wire tie—proof against weather, rodents, insects, rough handling and long hauls. Bales open up into uniform portions like sliced bread, easy to feed without tearing off leaves.

From hay in the windrow to bales on the wagon, this baler takes little labor. It handles windrows from 7-foot swaths at the same speed as tractor mower and rake. Years of use have proved it so sturdy it takes very little upkeep.

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Blueprint For Election

Signs in the British Columbia legislature indicate that the government will not let its full time run out.

by CHAS. L. SHAW

WHEN British Columbia's premier, Byron I. "Boss" Johnson, gave his policy speech in the legislature at Victoria a few weeks ago, he not only outlined a program of unprecedented expansion but produced a pretty attractive blueprint for a provincial election.

Whether there actually will be a province-wide political contest in B.C. this year has not been officially determined as this is written, but it would not be surprising if a date were set fairly soon, and the politicians would not be knocked far off balance if the actual polling were to take place as early as June.

Of course, the government doesn't have to hold an election for another year. Constitutionally it can retain office until well into 1950, but there is something in the air that unmistakably presages an early test of strength. The tide is riding high in the fortunes of the coalition government and the political experts are advising their leaders to take their opportunity while "at the flood."

So far as the coalition's aspirations are concerned, much will depend, of course, on whether it enters the election campaign whenever it comes, as a coalition or as a disembodied unit split into two factions—Liberals and Conservatives. If coalition holds together it should have little difficulty in regaining control of the government. If, on the other hand, party jealousies and the various complications resulting from the implications of the federal three-party system are permitted to break the coalition apart, then anything could happen—anything, such as a victory for the C.C.F.

Recent experience in British Columbia has shown pretty clearly that where the two parties committed to the same general principles—the Liberals and Conservatives—combine they can make short work of their C.C.F. opposition, but where they separate and make the contest for a single seat a three-cornered battle the C.C.F. has a very good chance of winning, perhaps not by a very wide margin but winning nevertheless.

Consequently the coalition's heart is being tested these days with a view to discovering any sign of weakness. There were rumors when Johnson was chosen as Liberal leader and premier to succeed John Hart that Attorney-General Gordon Wismer didn't feel so happy about it, which was natural enough in view of the fact that Wismer was an enthusiastic runner-up for the choice. But any suspicions as to where Wismer stood were allayed when he spoke in the legislature and declared himself as irrevocably in favor of continuing coalition.

THERE have also been suggestions as to wavering loyalty on the part of Hon. Herbert Anscomb, finance minister. Mr. Anscomb has been an able coalitionist administrator and his effectiveness has not been marred by the fact that he is a confirmed Conservative working in harness with Liberals. But Mr. Anscomb has been in a rather awkward position when federal politics intervene, for he is

admittedly the provincial Tory leader and, in the federal arena, he is logically for the Progressive-Conservatives. It might be embarrassing for not only Mr. Anscomb but for many other provincial politicians should the provincial and federal elections be scheduled for approximately the same time of the year, for if coalition continues in British Columbia the voters will be faced with the bewildering spectacle of Liberals and Conservatives admiring each other provincially but criticizing each other federally—a situation which the C.C.F. could probably capitalize with vote-getting as well as hilarious results.

The blueprint for election, regardless of what Premier Johnson's intentions might have been at the time, was tied up in his announcement of expansion—completion of the Pacific Great Eastern Railway to Prince George; more money for the power commission, more money for highways—more money for public expenditure than ever before, and yet money that could well be afforded because of the province's prosperity, increasing population, declining debt. Business conditions may not be quite so good later on, but now no one has much cause for discontent, despite a temporary and passing unemployment scare. Generally speaking, B.C. people are in a pretty comfortable mood, and that fact means a favorable election climate.

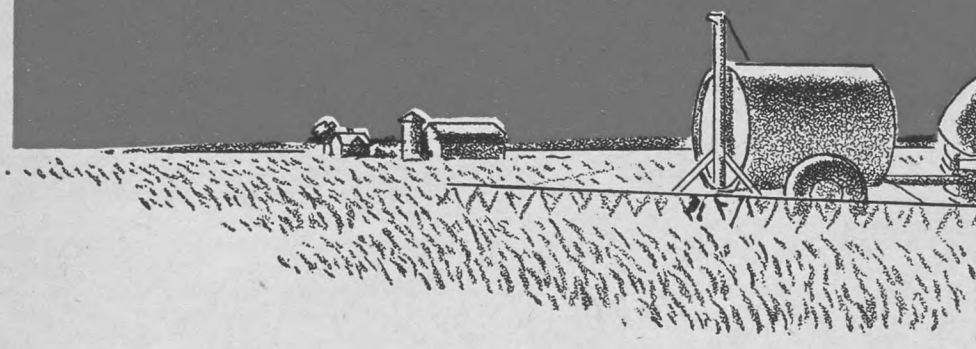
IF there had been doubts as to the likelihood of an early election, most of them must have been allayed when the government carefully avoided tampering with the contentious liquor and labor issues. There had been a demand from hotel and restaurant operators for cocktail bars and legalized drinking by the glass, and this had been supported by many of the daily newspapers, but the government decided that the demand wasn't strong enough. So far as the labor legislation was concerned, the attitude of the government was that the present law had not been given sufficient trial.

No doubt there will be considerable discussion of both these subjects during the campaign, although neither of them is sufficiently weighty to cause much pressure one way or another. There are other matters of more pressing interest, and one of them is the plight of the farmer. The agricultural producer is beginning to wonder how he will fare during the coming season with costs of operation continuing to rise and the prospective markets for his crops gradually diminishing.

There have been a few items of good news for the grower, but most of them have been of a negative nature. For instance, it looked for a while as though the entire surplus of the berries packed in SO² last year would remain unsold, and then Eire decided to buy about a third of the pack. And for a while the state of Washington had threatened to prohibit imports of British Columbia berries for the freezers; then at the last minute the bill was killed.

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FACTS WORTH KNOWING ABOUT 2,4-D



To get the most satisfactory results with 2,4-D, the farmer should know (1) how, when and where to use it, and (2) how to choose the brand which will give him the most effective and economical weed kill. Properly used, 2,4-D results in increased yields, lower farming costs, bigger profits. Here are some important facts worth knowing about 2,4-D.

How to compare different 2,4-D products

Look for the weight of 2,4-D Acid (the killing ingredient) the brand contains. For your protection, the labels on all brands of 2,4-D show the number of ounces or pounds of 2,4-D Acid per gallon. Remember—the true comparative value of 2,4-D brands is based on the cost per ounce or pound of 2,4-D Acid in the formulation—not the cost per gallon. Buy by Acid content.

What weeds will 2,4-D kill in growing crops?

That depends on the weed and stage of growth. HERBATE 2,4-D kills highly sensi-

tive weeds at low concentration. Less sensitive weeds like cocklebur and ragweed require a higher concentration. Russian thistle, Canada thistle, field bindweed, etc., may be controlled at high concentration, though the roots may not be killed. Even when perennial weeds are not killed, those that are stunted offer less competition with crop plants for moisture and food, and are more susceptible to winter-kill.

When should 2,4-D be applied?

Apply 2,4-D to wheat, oats and barley after plants are 6 inches high (or about 3 weeks after emergence). Apply to flax as soon as weed growth warrants, provided the flax plants have formed 4 or 5 leaves. Do not apply 2,4-D in flax after the early bud stage, or it may cause severe damage.

HOW WEEDS COST YOU MONEY

- Weeds reduce crop yields by robbing soil of available plant food and using up valuable moisture.
- Weeds crowd out grain and other crops, resulting in a poor stand.
- Weeds increase the cost of farming operations—plowing, harvesting, cleaning, etc.
- Weeds cause direct money losses due to dockage for high weed-seed content of grain.
- Weeds cause extra wear and tear on farm machinery, particularly combines, binders and threshers.
- Weeds attract injurious insects and harbour certain fungous diseases. Rot of small grain may pass the winter on several kinds of common weeds.
- Heavy weed infestation reduces the land value of your farm.

Compare the 2,4-D Acid content of "HERBATE" with other brands

That's the only sound, practical way to compare the value of different brands of 2,4-D. The 2,4-D Acid content is plainly stated on

the label. Read it carefully. Compare HERBATE'S Acid content (in ounces or pounds per gallon) with that of other brands.

Three Formulations for low or high-volume spraying

HERBATE Ester. Contains 64 oz. of 2,4-D Acid per gallon.

HERBATE Amino. Contains 80 oz. of 2,4-D Acid per gallon.

HERBATE P-70 (Sodium Salt). Contains 11.2 oz. of 2,4-D Acid per pound.

HERBATE saves crops—saves labour

HERBATE 2,4-D is a crop-saver for grain and flax. HERBATE sprays are the low-cost, labour-saving way to control the weeds which rob growing crops of moisture and food. HERBATE 2,4-D kills sensitive weeds outright... keeps even tough perennial weeds under control.

HERBATE users report yield increases as high as 30%, due to killing out heavy weed infestation. Cleaner crops also mean lower harvesting and marketing costs.

A PRODUCT OF CANADA'S LARGEST MANUFACTURER OF CHEMICALS

HERBATE 2,4-D is a product of the Agricultural Chemicals Division of **CANADIAN INDUSTRIES LIMITED**, established leaders in modern pest control products. Whenever possible, it will pay you to discuss your pest control problems—whether weeds, insects or plant diseases—with one of the trained C-I-L field representatives.

FOR EFFECTIVE, LOW-COST
WEED CONTROL IN GROWING CROPS

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HERBATE 2,4-D



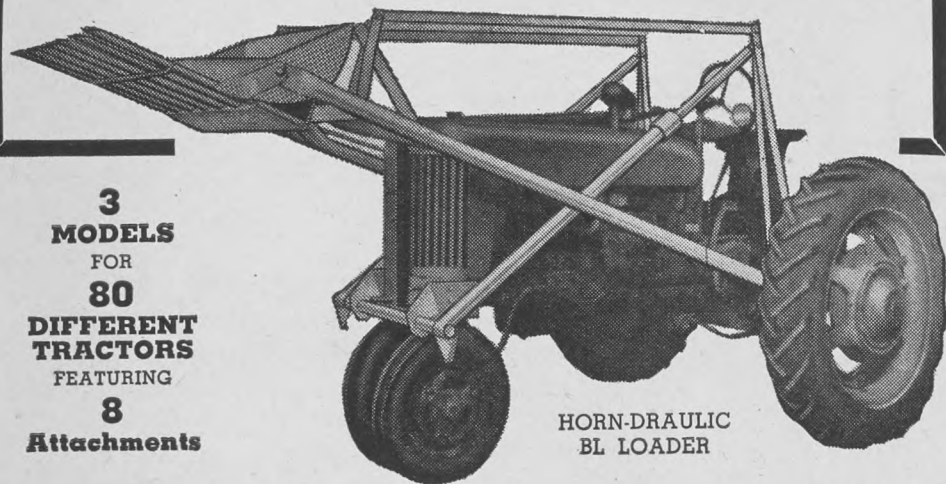
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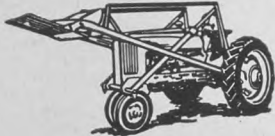
HORN-DRAULIC
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Allis-Chalmers, Case, Cockshutt, Farmcrest, International, John Deere, Massey-Harris, Minneapolis-Moline, Oliver.

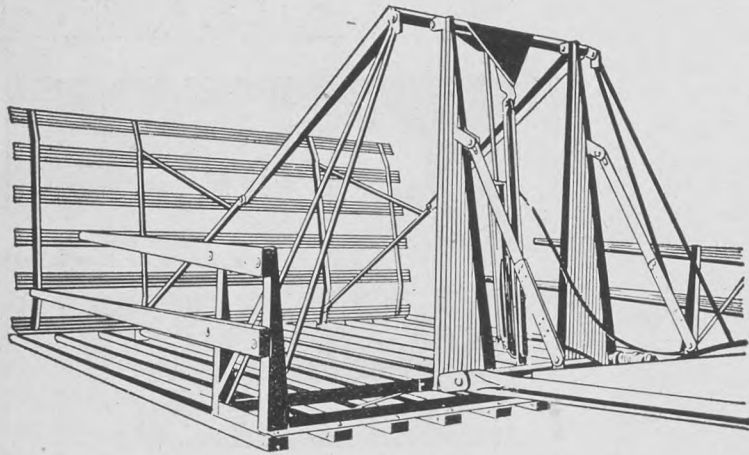
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STANDARDS**



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★HORN-DRAULIC LOADERS feature 8 outstanding labor-saving attachments, designed for simple installation and operation.

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News of Agriculture



[Photo: F.A.O.]

In 1948 F.A.O. sent hybrid seed corn for testing to 19 countries. In Italy yields were increased 35 to 50 per cent. Here, Dr. L. E. Kirk, chief of the Plant Industry Branch of F.A.O. at Washington and formerly dean of agriculture, University of Saskatchewan, inspects Wisconsin hybrid seed corn destined for experiment stations in Europe.

Bilateral Grain Trading

THE new International Wheat Agreement, which has been completed for signature and ratification following an International Conference lasting almost two months in Washington, may, if finally put into operation, allay some of the criticism which has surrounded the tendency toward bilateral (two-country) agreements which has characterized the post-war period.

For the crop year 1947-1948, for example, it has been estimated that about 930,000,000 bushels of wheat, including wheat flour, were exported from all sources. Of this amount about 480,000,000 bushels was supplied by the United States, and almost all of the remaining 450,000,000 bushels was marketed under some form of state trading arrangement. Furthermore, about 350,000,000 bushels or 78 per cent of the quantity covered by all state trading, was sold through long-term agreements and bulk-purchase contracts. Arrangements were of different kinds but all were on the government - to - government - transaction basis.

The Canada-British Wheat Agreement was the largest of all these contracts. Australia, one of the three largest exporters under the new International Wheat Agreement, had no long-term agreement, with the exception of one with New Zealand covering between 4,000,000 and 5,000,000 bushels annually. Practically all of the exportable surplus from the Australian crop, however, was taken care of by government-sponsored bulk sales, including 80,000,000 bushels to the United Kingdom, 25,000,000 to India, 7,000,000 to France, 4,000,000 to Ireland and 1,500,000 to South Africa. Prices in all cases ranged from \$2.75 to \$3 per bushel for the 1947-1948 crop year.

The Argentine Grain Monopoly had arrangements with various countries including Italy, Netherlands, Switzerland, Czechoslovakia, Spain, Brazil, Peru and Bolivia for a total of 2,400,000 metric tons (1.12 short tons). The agreement with Brazil accounted for half the total quantity. The Argentine

Grain Monopoly also had a number of agreements covering coarse grains. These totalled 2,147,000 metric tons, which with the exception of 315,000 tons of barley, consisted entirely of corn. In all, agreements were made with 10 countries including France and the United Kingdom, for all grains, and most of these agreements were for terms for from four to five years.

Soviet Russia for the year 1947-1948 made grain commitments totalling nearly 3.5 million metric tons, of which, however, only about 2.5 million metric tons were actually exported during the year. These agreements were with 13 countries and covered both bread grains and coarse grains.

Neither the Argentine nor Russia will be parties to the International Wheat Agreement, though Russia offered to supply approximately 100 million bushels. More than half her agreements in effect during 1947-1948 were with satellite countries in eastern Europe. It is believed that increased supplies of USSR grain now available would enable Russia to export more during the current crop year than during the crop year 1947-1948.

Taggart Is New Deputy

DR. G. S. H. BARTON, Deputy Minister of Agriculture for the Dominion since 1932, reached the



J. Gordon Taggart, new Deputy Minister of Agriculture at Ottawa.



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are custom built to our specifications, in western Canada, to meet western conditions. THREE MODELS, one for every need. Tractor, and trailer types for liquid and dust formulations. They're GUARANTEED! Low priced and EFFICIENT! Equally suitable for liquid or dust spraying of WEED-COP 2, 4-D or grasshopper chemical.

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Let us send you full, up-to-date information and the new rates of application of Fairview Weed-Cop 2, 4-D - PLUS a report of the Western Weed Conference held in Winnipeg in November 1948. This is a report of vital interest to every farmer. Get your copy now.

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retirement age in 1948, but was requested to remain in the service of the Department. In March of this year the Prime Minister, Mr. St. Laurent, announced Dr. Barton's appointment as special assistant to Hon. James Gardiner, Minister of Agriculture. In recent years, especially since the organization of FAO in 1943, Dr. Barton had been engaged to a very considerable extent with problems of international food relationships, attending many conferences and serving as chairman of many committees. His new appointment not only recognizes Dr. Barton's great experience in the handling of these new war and post-war relationships, but is evidence also of Canada's recognition of their importance to Canadian agriculture.

Canada's new Deputy Minister of Agriculture is J. Gordon Taggart, who has been well-known to farmers of western Canada since the period of World War I. He possesses an exceptionally wide knowledge of Canadian agriculture and has the advantage of long years of public service.

At the outbreak of war Mr. Taggart was appointed chairman of the Canadian Bacon Board which later became the Canadian Meat Board. From 1941 to 1943 he was Foods Administrator of the Wartime Prices and Trade Board and since the passage of the Agricultural Prices Support Act in the closing years of the war he has been chairman of that board. For the last two years he has been Director-in-Chief of Agricultural Services in the Dominion Department of Agriculture. Mr. Taggart is also a veteran of World War I, and served with the Canadian Army Overseas.

Appeal Oleo Decision

THE Annual Convention of the Canadian Federation of Agriculture and that of the Dairy Farmers of Canada both hoped they could persuade the Dominion Government to appeal the decision of the Canadian courts on the margarine question. After waiting for two months in the hope that an appeal would be made, the two organizations acting jointly, announced early in March that they would apply for leave to appeal to the Privy Council. Arguing that it was Federal legislation which was involved and that the Federal Government was responsible for its submission to the Supreme Court of Canada, and feeling as well that the court decision may well have far-reaching effects with respect to Federal jurisdiction over agricultural programs, the farm or-

ganizations felt that the provision ought to be clarified for a number of reasons:

The Supreme Court decision was not unanimous; legislative authority between the Dominion and the provinces has been left in a confused state; all five judgments against the legislation differ from each other as to the basis for the conclusion reached; and a serious element of uncertainty is apparent "with respect to the status of other existing agricultural legislation in the Federal field."

Another Record Cash Income

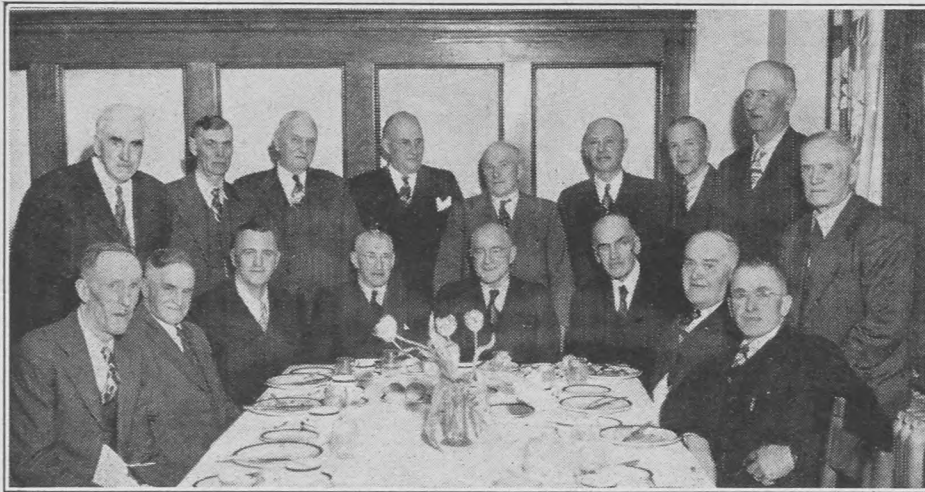
AT \$2,470,611,000, Canadian cash farm income in 1948 piled up still another record. The then record figure for 1947 stood at \$1,973,853,000, while the 1946 figure was \$1,759,736,000.

Wheat alone last year accounted for \$560,000,000, of which \$158,407,000 was from wheat participation certificates and adjustment payments. This figure for 1947 was only \$73.8 million dollars and for 1946 it was \$39.2 million. These special payments helped to swell the total from seed, grains and hay last year to \$796.5 million.

Increased prices under the 1948 British contract for bacon as well as the opening up of the American market, increased the total cash income from livestock from \$555.2 million in 1947 to \$802.1 million last year. In spite of the decline in bacon exports, revenue from hogs increased from \$240.4 million to \$300.8 million and revenue from cattle and calves from \$235.2 million to \$433.6 million. Dairy products increased from \$325.5 to \$389.5 million and revenue from eggs from \$112.7 to \$128.4 million.

The three prairie provinces accounted for 49.9 per cent of the total Canadian cash farm income. Ontario led all provinces with \$668.3 million but Saskatchewan with \$537.2 million, Alberta with \$452.5 million and Manitoba with \$243.3 million combined to make a prairie farm cash income of \$1,233,000,000.

Interesting is the fact that Manitoba, the smallest of the three prairie provinces had an income from seed, grains and hay more than three times that of Ontario. Alberta's livestock revenue at \$157.7 million, almost equalled the livestock revenue of Quebec and the three maritime provinces combined, while Ontario's livestock revenue at \$290 million, more than equalled the combined livestock revenue of all other provinces, except Saskatchewan and Alberta.



In 1906 the course in agriculture at the Manitoba Agricultural College opened with 80 students. Pictured here are 15 of the original class and two original instructors, who were able to attend a reunion recently at the University of Manitoba.

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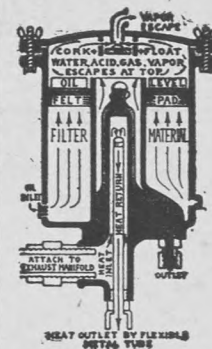
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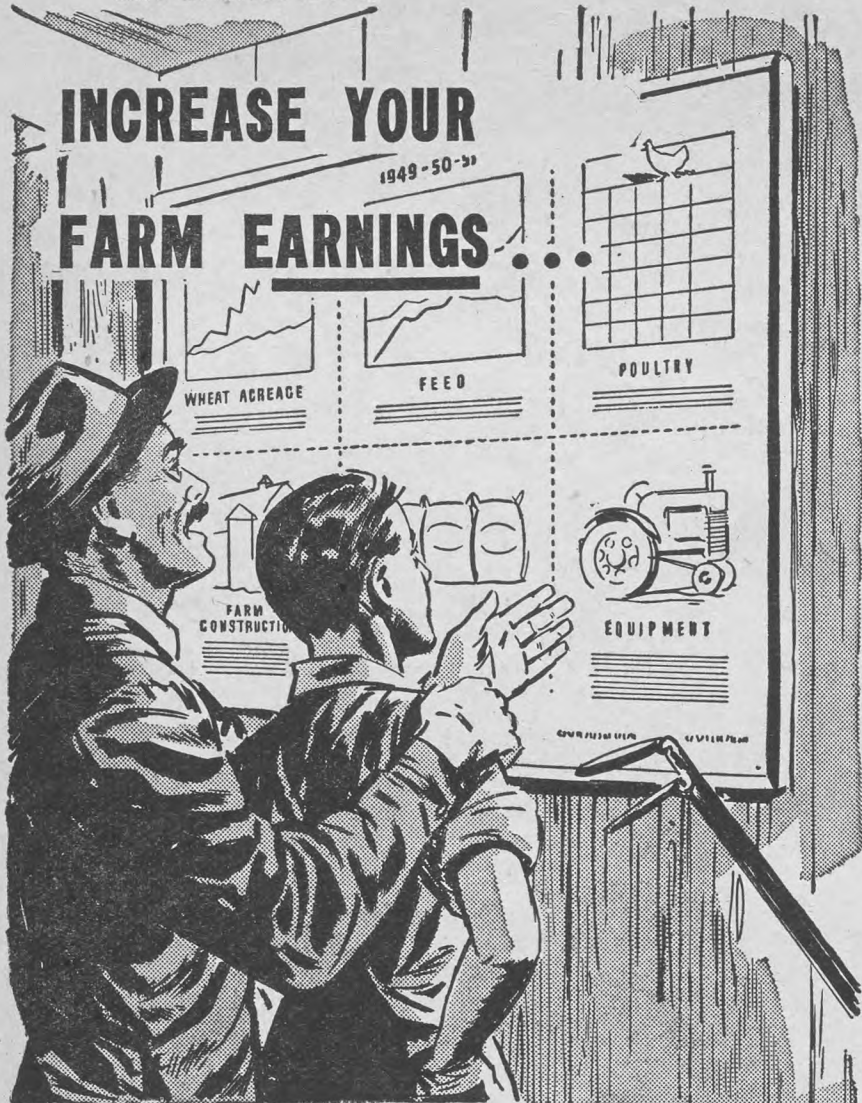
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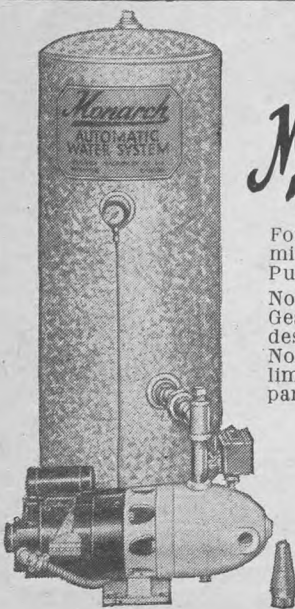
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Note the direct coupling of pump and motor. No Belts, Pulleys, Gears, Rods or Leathers to wear out. This direct coupling design, makes possible a perfect alignment of Pump and Motor. Not only does this mean a compact Unit, easy to install in limited space, but it also means **GREATER SAFETY**—no moving parts are exposed.

Only one moving part in the entire pump assembly, and no moving parts in the well. No lubrication is required for these truly modern Water Systems.

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Get It At A Glance

Short Items Of Interest From Here and There.

AT the recent show and sale at Perth, Scotland, 316 Shorthorn bulls were sold for an average price of 298 pounds. Eighteen bulls sold for over 1,000 guineas each, the supreme champion being knocked down at 7,000 guineas. Twenty head were sold to Canadian buyers. A week earlier, also at Perth, 432 Aberdeen-Angus bulls were sold for an average of 208 pounds, the high price of this sale being 4,400 guineas.

MANITOBA'S rural electrification program extended hydro-electric service to 24 new communities during the fiscal year ending March 31, 1948, bringing the total of cities and towns and villages served by the commission to 245. During the same period 3,500 farms were connected under the farm electrification scheme. More than 40,000 customers were served at the end of March 1948—an increase of 18.9 per cent from March 31, 1947.

A GROUP of about 60 grain and dairy farmers from South Africa will visit Canada next August. They plan to study soil conservation and fertilization, production methods and equipment, culture of seed grain, methods of grading seed, dairying and marketing. Among other points they will visit the experimental stations at Lethbridge and Swift Current, and laboratories and grain grading and selling facilities in Winnipeg. They will visit the Canadian National Exhibition and a number of dairy farms in eastern Canada.

THE value of hay and pasture seed crops grown in Canada in 1948 is currently estimated at \$18,099,000, an increase of almost 100 per cent over the 1947 figures of \$9,118,000. This increased value is attributable to increased yields in 10 of the 12 crops considered and increased prices in seven of these 12 crops. The crops considered include alfalfa, alsike clover, red clover, sweet clover, timothy, brome, crested wheat grass, western rye, Kentucky blue grass, Canadian blue grass, creeping red fescue and bent grasses.

FARMERS and ranchers in Nevada and parts of Wyoming will probably never forget the winter of 1948-49. Blizzard followed blizzard, and the snow piled up to unprecedented depths. Feed ran short. It is estimated that 20 to 50 per cent of the sheep in Nevada perished. In parts of Wyoming the figure is estimated to have reached 70 per cent. An attempt was made by the U.S. Air Force to drop feed from planes but the livestock were trapped in small bunches and the owner often could not reach them.

NEW ZEALAND is the fourth most important country from the point of view of wool production, being bested only by Australia, Argentina and the United States. She produces about a million bales of wool annually, with an average of 320 to 325 pounds each. About 90 to 95 per cent of this wool is sold at auctions in New Zealand through wool brokers, and about two to five per cent of it is sold at the London wool auction sales. About 95 per cent of the New Zealand wool clip is exported. In 1947 a total

of 112 million bales valued at 33 million pounds were exported, 55 per cent going to the United Kingdom, 13 per cent to France, 11 per cent to the United States and five per cent to Canada.

A NEW world championship for butterfat production in the senior two year-old class was set by the Holstein, Graynor Lochinvar Champion owned by Graynor Farms, Oakville, Ontario. She produced 1,120 pounds of butterfat from 24,972 pounds of milk, average test 4.49 per cent, in three-times-a-day milking. The previous record, held by a Guernsey in the United States, was 963 pounds of butterfat.

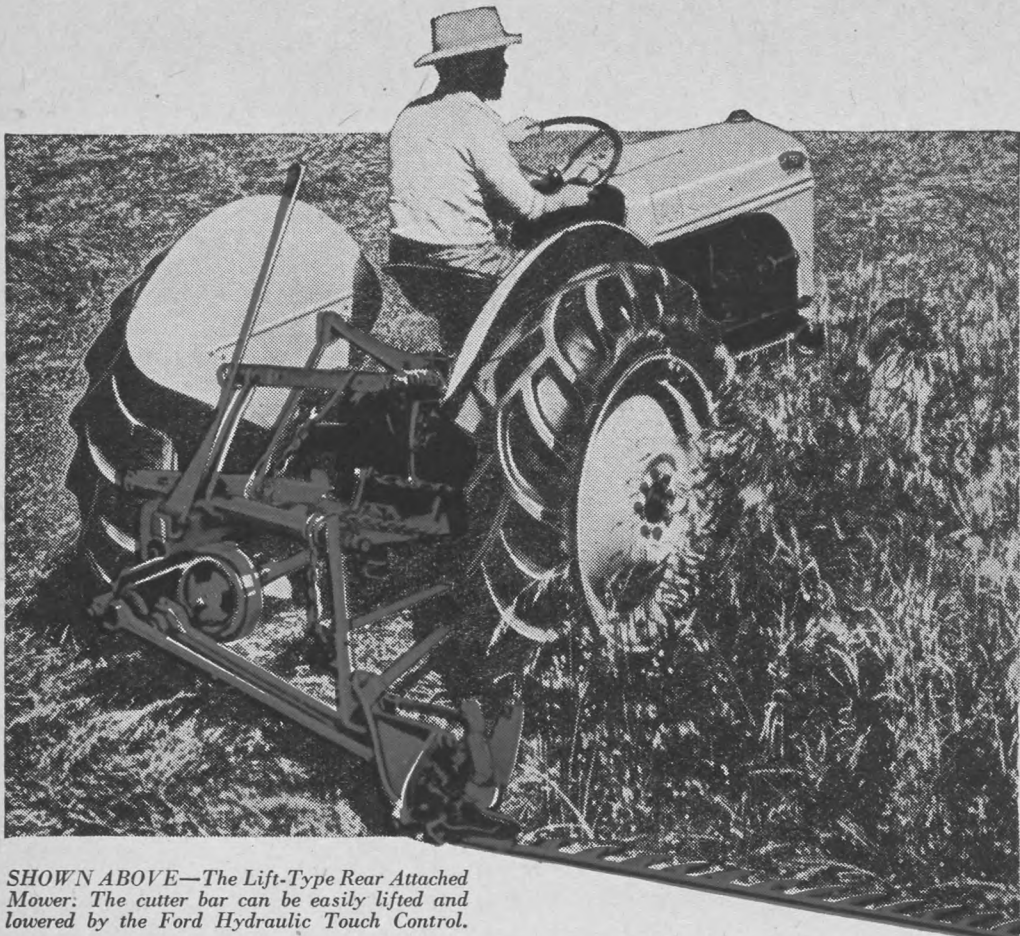
THE total number of hogs on farms in Canada at December 1, 1948, is estimated at 4,604,200, a decline of 14 per cent from the same date in 1947. Decreases occurred in all provinces but were greatest, at slightly over 20 per cent, in the prairie provinces. The fall pig crop was about 90 per cent of that in 1947, though marketings in 1948 were greater than in 1947 in relation to the total number of hogs on farms. Breeding intentions reported in December 1948 indicate that the spring pig crop this year may be expected to be almost 20 per cent larger than last year. The greatest change is in Manitoba with an expected increase of 37 per cent. The expected increase for Ontario is 22 per cent and for Quebec is 19 per cent.

AT the recent Calgary bull sale 685 Herefords sold for an average price of \$693.66, exceeding the average high established last year by \$140. The high price of the sale was \$7,000 paid to Albert Alm and Sons, Claresholm, Alberta, by William Weber, Woodhouse, Alberta.

THE average value of occupied farm land in Canada for 1948 is reported by the Dominion Bureau of Statistics at \$39.00 an acre. This is an increase of 11 per cent over the 1947 level and an increase of 62 per cent over the 1935-39 average. The average value per acre of occupied farm land in Manitoba stood at \$34, in Saskatchewan \$24, Alberta \$31, and British Columbia \$79.

WESTERN Canada is not alone in the expectation of heavy grasshopper infestations in 1949. Surveys made by the United States Department of Agriculture point to the worst plague in the western States since 1940. Severe infestations are expected in eastern Montana, Wyoming, Colorado, western Nebraska, Kansas and Texas, with Utah, Arizona, New Mexico and California experiencing local outbreaks of varying intensities.

IF you are a pipe smoker avoid chewing the straw that you have run through your pipe stem. Some years ago Edward Ward ran a piece of straw through his pipe and offered the nicotine soaked straw to a garter snake nearby. The snake ate the straw, and soon after died. This accidental experiment proved important in directing researchers to an available and cheap means of control of garter snakes.



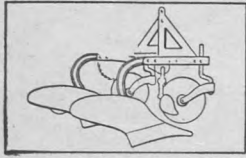
SHOWN ABOVE—The Lift-Type Rear Attached Mower. The cutter bar can be easily lifted and lowered by the Ford Hydraulic Touch Control.

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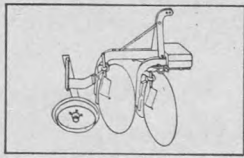
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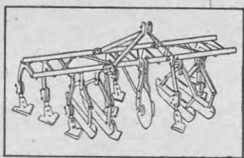
THERE ARE MORE THAN 60 DEARBORN FARM IMPLEMENTS



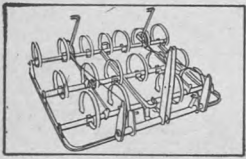
MOLDBOARD PLOW



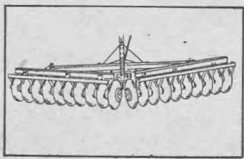
DISC PLOW



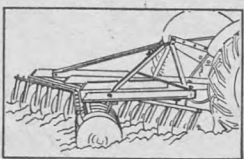
RIGID SHANK CULTIVATOR



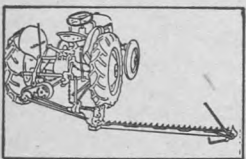
SPRING TOOTH HARROW



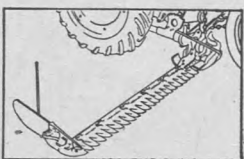
SINGLE DISC HARROW



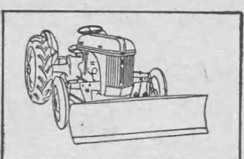
TANDEM DISC HARROW



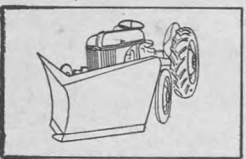
REAR ATTACHED MOWER



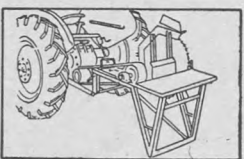
SIDE MOUNTED MOWER



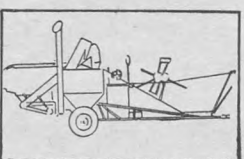
ANGLE DOZER



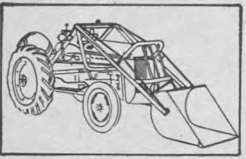
"V" SNOW PLOW



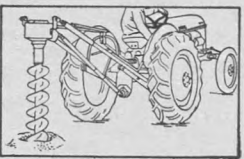
CORDWOOD SAW



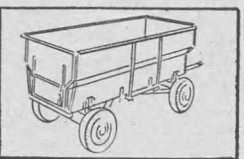
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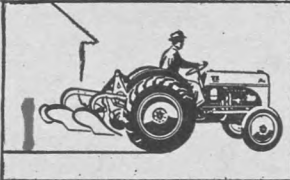
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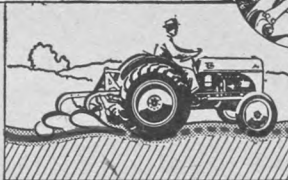
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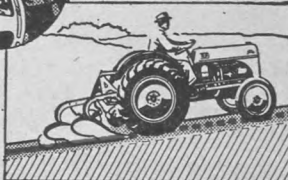
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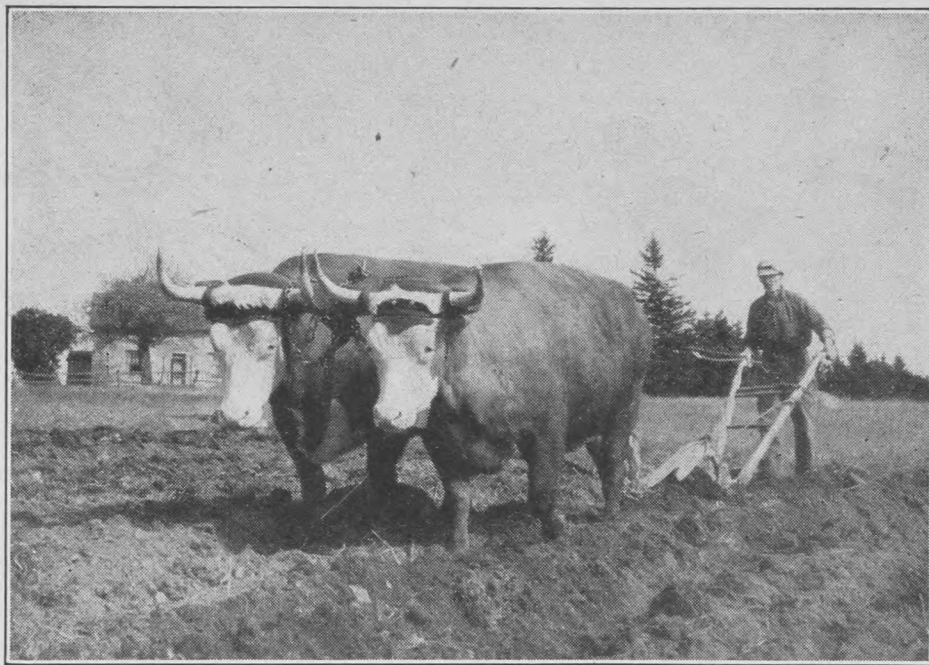
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LIVESTOCK



[Photo: Nat. Film Board]

Idyllic, picturesque and useful, but very slow, many yokes of patient oxen are still in regular use in the Maritime Provinces.

Wanted—5,000 Bacon Hogs

DOWN in Ontario and the far east-
ern province of Prince Edward
Island the governments and livestock
men are quite proud of the fact that
the combined percentages of both A
and B1 hogs marketed in these prov-
inces, run between 85 and 90 per
cent. In the western provinces we do
not do as well, and in Manitoba the
comparable percentage is just about
76 per cent. The Manitoba Depart-
ment of Agriculture feels that this
difference in the market quality of
hogs is unnecessary and is the result
of differences in feeding, management,
and marketing at correct weights,
each of which is a factor within the
control of the producer himself.

A year ago they set out to test this
in co-operation with the Dominion
Department of Agriculture and with
the aid of generous cash prizes pro-
vided by the T. Eaton Co. Ltd., for a
get-of-sire bacon competition. The
competition had two objectives: First,
"to focus attention on desirable
practices of breeding, feeding, man-
agement and marketing at proper
weights, as a means of improving the
carcass quality of commercial hogs;"
and second, to demonstrate if possible
"that certain boars had the inherent
ability to sire top-quality commercial
hogs."

Each entry had to consist of at least
50 pigs marketed from a group of not
less than six producers, headed by a
boar owner or a boar-club caretaker.
All pigs marketed in any entry had to
be sired by the same boar. Grade A
pigs were awarded 10 points, B1 eight
points, B2 or B3 five points and any
other grade three points. The total
score for any group was then ex-
pressed as a percentage of 100, which
represented the maximum score.

Of the 10 entries in the 1948 com-
petition, two were from the same dis-
trict, and the two boars siring these
two groups of market hogs were half-
brothers, both fathered by a boar
owned by the Provincial Department
of Agriculture and bred in the prov-
ince by John Strachan. These two
groups won first and second places in
the competition, the first with a score
of 91.2, and a percentage of 97 per
cent Grade A and B1 combined and
the second, also from Hnausa, with a
score of 88.2, and 92 per cent of A and
B1 combined.

It is interesting to note that the 10

boars siring the 10 winning groups in
the competition were bred by 10 dif-
ferent breeders in Manitoba; and also
that of the 20 grandparents, 17 were
bred by Manitoba breeders, nine of
them by three breeders and eight of
them by eight other Manitoba breed-
ers. Furthermore, all pigs entered in
the competition, whether in prize-
winning groups or otherwise, aver-
aged just about 85 per cent of Grade
A and B1 combined.

For 1949, the department hopes
that instead of less than a thousand
pigs entered in the competitions, it
will be possible to get 5,000 pigs
marketed in this competitive-scoring
manner. The improvement in the
grading in 1948, for these competition
hogs, they say, "must be the result of
greater care in feeding, management
and marketing at proper weights,
factors which are definitely under the
control of the producers. If the pro-
ducers, in a contest of this kind, can
increase the percentage of A and B1
hogs by almost 15 per cent, surely it
is possible to effect a similar improve-
ment on a provincial scale, if we can
focus enough producer interest on this
problem."

Dehorning Cattle

IF there are any older cattle that
were not dehorned last fall, it
is time to begin thinking about
this job. Dehorning should not be
done when it is either too cold, or too
hot; and the fly season is the worst of
all seasons for the job. Wait until the
weather becomes mild and get it over
with. Horns on calves up to two weeks
of age can be stopped at any season
of the year, with caustic potash.

Caustic potash comes in stick or
paste form and is available at almost
any drug store. To use it, apply
vaseline around the edges of the horn
button to prevent drops of liquid
burning the skin, but if a stick is used,
wrap the upper part so fingers will not
be burned. To apply, hold the calf's
head steady, moisten the end of the
caustic stick and rub each horn button
a number of times, or until it appears
quite red. It only takes a few seconds
each time. To use paste, apply a little
bit to each horn button with a knife
or a splinter of wood.

For dehorning older cattle some
mechanical equipment is necessary.
Gougers or tube dehorners are not
satisfactory for older cattle, although



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they are appropriate for young calves. When cattle are one year old or more the old saw or dehorning clippers are required. Clippers are faster, but for old animals with very hard horns the saw is perhaps best, because it does not splinter the bone.

Remove the horn as close to the skull as possible and avoid unsightly stubs. If dehorning is done in the summer when there is danger from flies, use pine tar or some coal tar product on the wound and cavity. If sweet clover is being fed, take away this feed for two or three weeks previous to dehorning, since excessive bleeding sometimes occurs.

Britain Can Breed It

A NEW book devoted to the interests of Britain's export livestock industry has just been published by *Farmer and Stock-Breeder*. Long prominent as one of Britain's leading livestock and farm periodicals. Called "Britain Can Breed It," the new book is 10 inches by 7½ inches in size, comprising 130 pages in two colors and contains nearly 70 photogravure illustrations. It is cloth bound with gold block cover and "is being distributed without charge direct to overseas breeders and others interested in Britain's stock." The publishers also advise us that a small number of additional copies will be available on application to *Farmer and Stock-Breeder*, Dorset House, Stamford St., London, S.E. 1, England.

Britain's export of pure bred livestock appears to be growing. There were 888 head of breeding cattle exported in 1938; by 1948 the number had grown to 2,002, with a value four times that of the 1938 export. Sheep exported increased from 1,487 to 2,944 and pigs from 198 to 1,194. In addition it is probably true that some 900 thoroughbred and other pedigree horses, valued at nearly one million pounds, were exported from Britain last year.

Vitamin A For Good Health

ANALYSIS of range vegetation has shown that the vitamin A content of native grass is very low when the grass is cured in the fall or winter months. During the early summer when the grass is green, livestock are able to take in enough vitamin A to provide some reserve to carry them over a period when the rations may be deficient. However, if drought prevents normal growth of grass, a deficiency of vitamin A may result in higher calf and lamb losses the following spring and, in such a year, supplemental vitamin A could be expected to reduce losses.

Vitamin A helps to maintain resistance to infection, and reduces the severity of colds, diarrhea and other infections. A shortage of the vitamin causes poorer results in the breeding herd. Also, the formation of kidney and bladder stones is more likely, because a deficiency damages the kidney tissue and so interferes with normal secretion and elimination of urine.

A deficiency of vitamin A is suspected of being one of the causes of urinary calculi, which may occur in steer calves during the early winter months.

A cow or ewe on green grass will secrete enough vitamin A in her milk for the nutrition of the young, but this may not be enough to assure a reserve during the period when no milk is

bigger Yields begin here!



Chances of harvesting a full, even stand at harvest time are better when you sow your grain with an Oliver Superior No. 38 Drill. It pays off in extra production by *planting seeds properly!*

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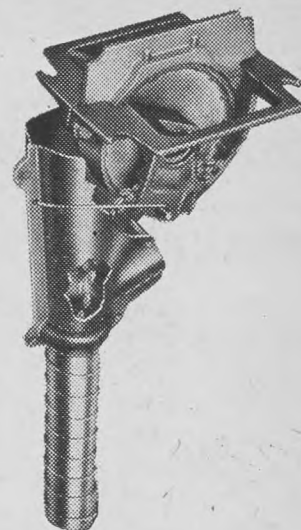
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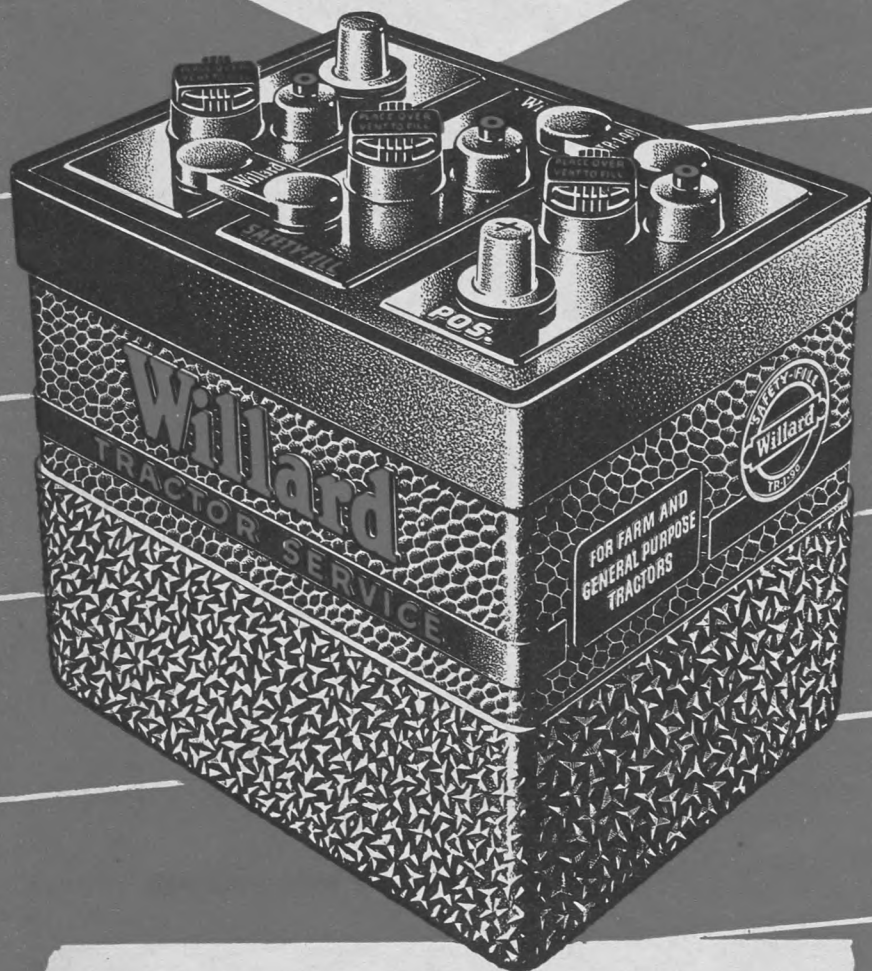


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available. Deficiency symptoms may appear in the calf during the fall and winter.

Swine Erysipelas

MANY hogs in the prairie provinces are affected with swine erysipelas in chronic form. It is sometimes not recognized. Symptoms are that the hogs are not making gains; they show a thick, scaly skin, or a skin with patches having a purple border. Occasionally, swollen and painful joints are indicative of swine erysipelas.

Hogs showing these symptoms should be isolated. The Animal Diseases Laboratory at the University of Saskatchewan advises that a sick hog should be sent to the laboratory for diagnosis. If the diagnosis is confirmed, instructions will then be sent to the owner.

If given very early in the disease, in large doses, anti-swine erysipelas serum is of considerable value, especially if the disease is present in the acute form. This serum also gives fairly good results when used for prevention in healthy pigs that are likely to be exposed to the disease. The serum can be purchased in Saskatchewan from the Animal Diseases Laboratory, University of Saskatchewan, Saskatoon.

It is important to note also that human beings are susceptible to this disease which is, however, not the same as human erysipelas.

Re The Brood Sow

WE HAVE found that starting the prospective brood sow is of much importance. Don't let her get too big; start her early to develop productive habits as to numbers and milk efficiency.

Then, of course, feed as you find the best system. We avoid much barley—not over 15 per cent for either nursing or forward pregnant sows; high grade oats with all seeds excluded, unless of lamb's-quarters or millets, and a nice little lock of choice clover—red clover or alfalfa is good! Also daily two or three regular sugar beets (not mangolds). We don't know why, but that is the ideal ration. For minerals let them have access to a box of soft coal the year round, salt and wood-ashes also. Don't salt their feed; they will use it as intelligently as you. —John Mackay, Ontario.

Farrowing Time

FROM 25 to 30 per cent of all pigs farrowed in western Canada never live to reach market weight. This is a very heavy percentage of loss, but it can be reduced.

Good care of the sow before farrowing will help. Dry, well-bedded shelter, exercise provided if necessary by having feed troughs some distance away from sleeping quarters, good quality alfalfa or clover hay where the sow can get at it and a meal mixture of ground oats and barley with five per cent of meat meal or concentrates added, will provide a sound basis for healthy litters, according to the Dominion Experimental Farm at Brandon. Some bran added to the ration a few days before farrowing will be advisable and the sow should also get a little potassium iodide in her feed or drink during pregnancy, to prevent the occurrence of hairless litters.

Dr. L. W. McElroy, University of Alberta, emphasizes the fact that

brood sows during pregnancy and lactation have high mineral requirements, especially of calcium and phosphorus. Grains are very deficit in calcium and even where alfalfa hay is fed it is safer, he believes, to mix one-half to one pound of ground limestone in each 100 pounds of feed, in addition to one pound of salt. Where commercial mixed supplements are fed, Dr. McElroy advises that further minerals should not be mixed in the home-grown feed. On the other hand, to be sure that sufficient minerals are consumed, these may be self-fed from a mineral self-feeder filled with a mixture of 40 pounds ground limestone, 40 pounds bone meal and 20 pounds salt.

The sow should be brought to her farrowing quarters six or seven days before farrowing. It is then that she needs her feed made a little more laxative. A. J. Charnetski, Livestock Supervisor, Alberta Department of Agriculture, recommends reducing her feed by about half, three or four days before farrowing, and at the time of farrowing she needs only some lukewarm water containing a little shorts or oat chop. After about 24 hours her feed should be gradually increased until she is on full feed in a week or ten days. If the sow's udder is congested, two heaping tablespoonfuls of Epsom salts should be given in the feed in addition to plenty of water. Bathe the udder with warm water containing a handful of Epsom salts in a pint of water, then dry and apply warm sweet oil.

As the young pigs are born it is a good plan to dry them with a gunny sack, place them in a well-padded basket or tub containing a hot water bottle, and return them to the sow for nursing after farrowing is completed.

Young pigs have long black teeth with outward curves. These injure the udder of a nursing sow and should be dulled, according to Mr. Charnetski, by breaking off the points with a pair of nippers, taking care that only the points are removed and that the tooth is not splintered; otherwise serious jaw infection might result.

To prevent anemia in young pigs, give them iron, which cannot be provided by the sow. At the end of three days give each small pig half as much "reduced iron" as will cover a ten cent piece and repeat for three weeks at weekly intervals, or until they are eating regularly. Place the reduced iron well back in the pig's mouth, but do not throw it in. Four or five drops of concentrated cod liver oil with each dose of reduced iron will help develop resistance to disease.

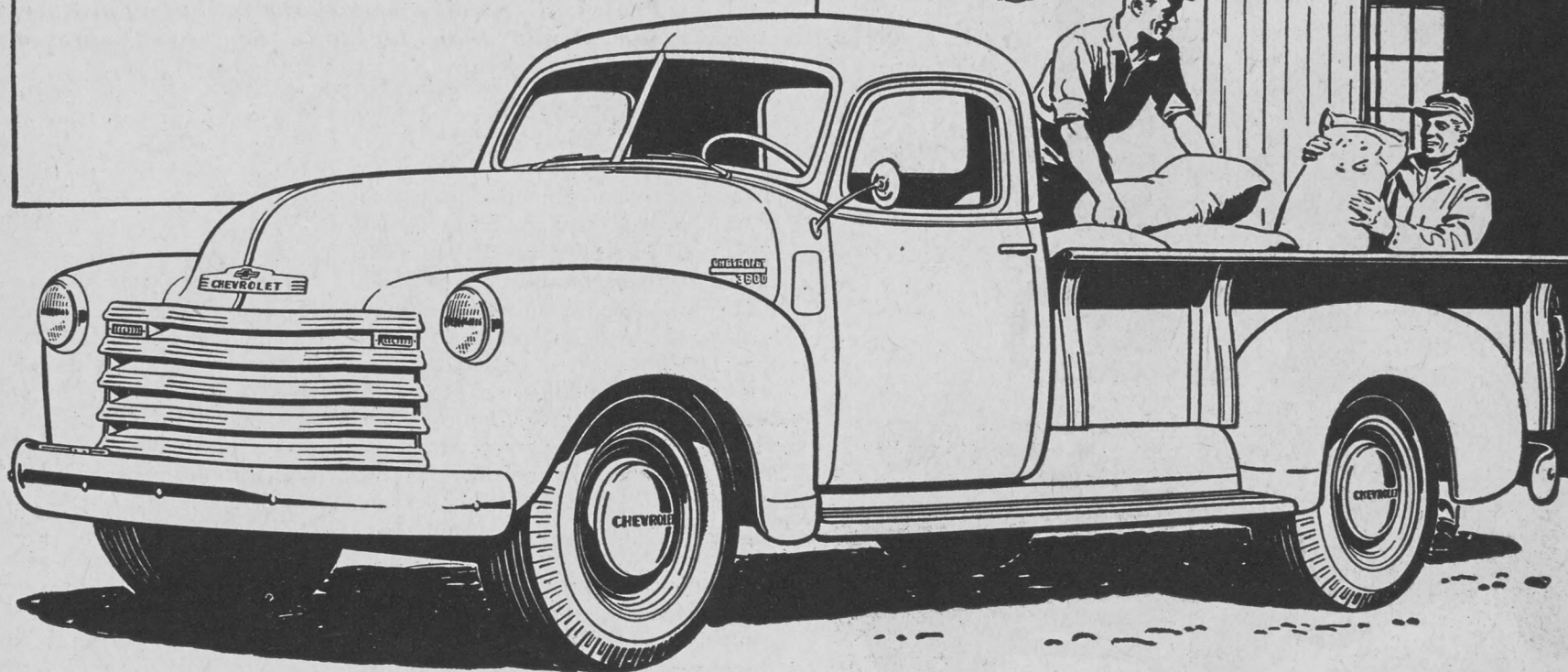
Annuals Here Again

COPIES of the Farming News and Scottish Farmer annuals are here again for 1949. Many readers have been securing these famous livestock annuals through The Country Guide for years. The price is still \$1 each, postpaid, and orders will be filled in the order in which they are received.

The Country Guide also has a number of Stallion Record Books available, also at \$1 each, postpaid. These are indispensable equipment where a stallion is kept in service. Address all orders to Book Department, The Country Guide, 290 Vaughan Street, Winnipeg, Man.

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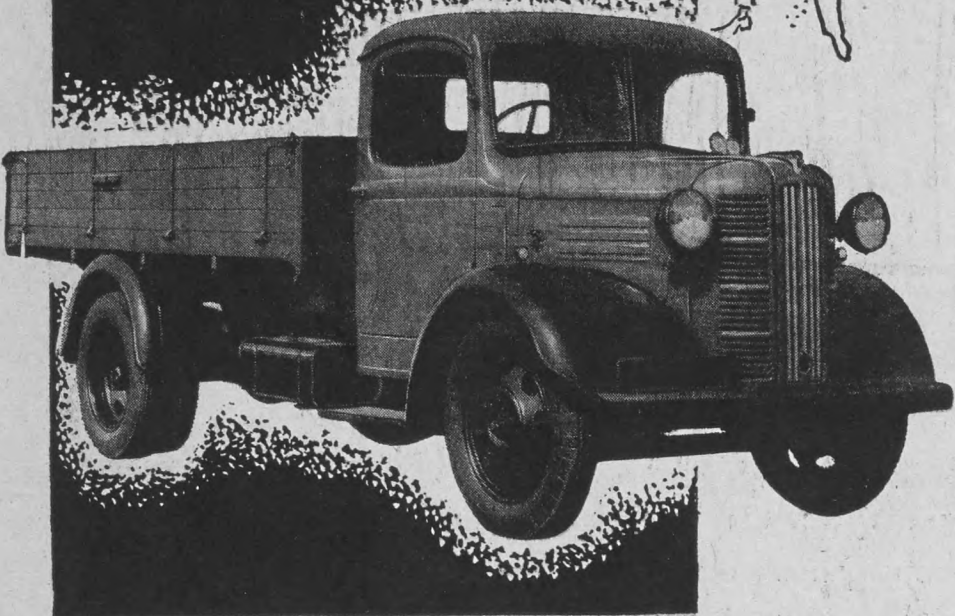
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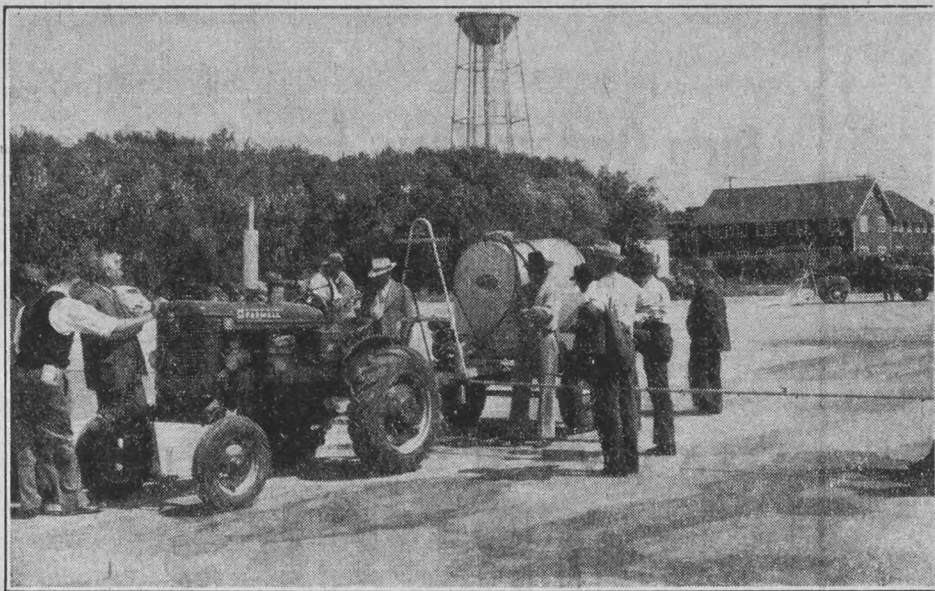
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FIELD



One of fourteen makes of chemical weed sprayers offered for sale in Manitoba in 1948.

Selecting A New Weed Sprayer

Prof. G. L. Shanks stresses the important features you should look for in a new weed sprayer.

IT HAS been reliably estimated that 4,000,000 acres were sprayed for weed control in 1948 in the Prairie Provinces. This is a large increase over the amount sprayed in 1947, but may well prove to be less than will be sprayed in 1949. This amount of work requires a great many sprayers. A large number of different makes are on the market, and it is no easy task for a farmer to decide which is best for his conditions. In a recent address to the Field Crops Short Course at the University of Manitoba, Prof. G. L. Shanks, head of the Department of Agricultural Engineering, indicated some of the features desirable in weed sprayers.

A tractor-mounted machine costs about half as much, makes a more compact unit, and in some cases will do less crop damage than a trailer. On the other hand, the tank capacity is much smaller and they require time for assembly. The trailer-mounted sprayers are always ready to hitch into at a moment's notice.

The size of the outfit is also an important decision. "I favor a 50 to 80 gallon (Imperial) capacity for a tractor-mount, depending on the size of tractor to be used; and 100 to 150 gallon on a trailer-mount," says Prof. Shanks. "For soft fields it is easy to overload rubber tires and lose more time than will be lost by the extra refillings. For Manitoba a boom 30 to 33 feet seems desirable. Longer booms are unwieldy, more subject to breakage and should, in most cases, be supported by caster wheels. The material of both tank and boom should be corrosion-proof insofar as possible."

Next comes the pump, which should have a capacity of at least 12 to 15 Imperial gallons per minute. If it is much less, too great a proportion of the operating time is taken up filling the tank. The simple gear type of pump is the favorite. Its chief drawbacks at the moment are leaky stuffing boxes and priming difficulties, but these are gradually being overcome. If high pressure spraying is contemplated the gear type is unsuitable.

It is important to buy a machine equipped with a filter having an adequate filtering surface and one that is easy to disassemble and clean. Poor filtering will result in clogged nozzles.

Nozzles are now being produced in a complexity of sizes and designs. "A good nozzle," said Prof. Shanks, "is one which deposits the spray uniformly on the crop and produces a droplet of medium size—one that is large enough to settle instead of drift, but not large enough to run off the leaves." There are now four or five makes that are satisfactory for commercial spraying. A useful feature of modern design is the interchangeable tip. This tip facilitates cleaning and makes possible a change in discharge rate without completely replacing the nozzles.

"While the best rate of application is still a controversial matter, I feel that four gallons (Imperial) per acre is low enough and that further reductions, while increasing the difficulty of cleaning nozzles and controlling uniformity of coverage, will not greatly reduce the water supply problem."

With respect to the booms, Prof. Shanks suggests that there is little evidence to support many of the claims made for expensive materials. At the present time the cheaper booms may be the wiser selection. Self-supporting booms are more convenient and are satisfactory on smooth, level land up to a length of 30 feet. Wider booms on rolling land will do better work if supported by wheels.

The pressure regulator and pressure gauge are the best means of controlling the rate of spraying. "If the outfit is not equipped with an automatic pressure regulator and a large, easily read, accurate pressure gauge you may be sure that you will pay for them in wasted spray and perhaps in damaged crops."

If it is possible to get a machine in which the nozzles do not drip when the outfit is stopped it will be an advantage.

"The nozzles vary widely in their spacing on the boom," said Prof. Shanks. "Some are 10 inches apart, others 15½ inches and 18 inches, but perhaps 20-inch spacing is the most widely used distance in Manitoba. Some give single coverage with slight overlap—others lap 50 per cent on each of its neighbors, giving complete double coverage. Obviously to give double coverage requires either more liquid or smaller nozzle orifices. I favor single coverage with a nozzle

producing a tapered edge so that it blends into the adjoining spray pattern.

"In any nozzle the height from the point where most spray is required is of great importance. With fan-shaped spray the closer the nozzle is to the ground the narrower its band of coverage. Hence, for any given nozzle and pump pressure there is only one correct height. Without supporting wheels we can hardly hope to maintain the boom's position accurately. Fortunately, wind drift in practice smooths out much of this, but the problem should not be forgotten in selecting a machine."

Should We Modernize?

ALL farm practices up to and including actual harvesting operations are designed to increase either yield or quality of crop, or both. Much time and expense is expended on the preparation of soil, perhaps including the application of fertilizer, and certainly there is some attention to the control of weeds and the conservation of all available moisture. Under such circumstances it does seem the height of folly to put seed into the ground which is not of a variety suited to the district, or cleaned so as to eliminate seeds which will not germinate and grow well, including also impurities, such as seeds of other grains and weed seeds. Equally unprofitable is the seeding of grain which is a carrier of diseases, known to be controllable by simple methods of seed treatment.

The Dominion Experimental Farm at Brandon reports that a recent seed-drill survey of coarse grains in Manitoba shows that only 40 per cent of fields were sown with treated seed, though none of the seed found in the drill was free of smut. The same institution reports that a survey made by the Line Elevators Farm Service showed that some 65 to 70 per cent of a very large number of barley samples collected from different points in the prairie provinces in 1947 and 1948 were sufficiently infected with smut to require seed treatment.

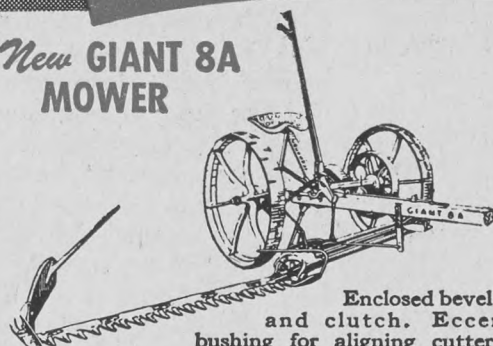
Now these facts are all the more remarkable when it is remembered that the smut diseases which infect wheat, oats and barley, namely the loose and covered smuts, were discovered as early as 1807, four years before the first Red River settlers came to Manitoba. Fifty years ago this year and before the great rush of settlers to the prairie provinces took place in the first decade of this century, the formaldehyde treatment for these smut diseases was discovered. Then came the dust treatment with copper carbonates, while the treatment with organic mercury dusts was discovered in Europe in 1912, or two years before World War I. Later the Ceresan and Leytosan treatments appeared about 1925 and have been used in western Canada since about 1930. And, as it appears, we still seed 60 bushels out of every 100 without treatment, though it all carries some smut disease!

Better Farms—Fewer Acres

THERE has been a growing tendency in our district the past few years for farmers to increase their acreage. True, they have grown a lot of produce and made more money. But too often it has been at the sacrifice of the best farming practice. Just to mention one instance or result of

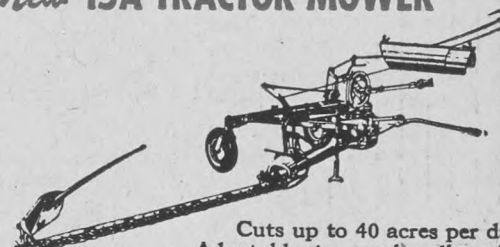
PAVE THE WAY TO BETTER HAY ...and greater profits!

New GIANT 8A MOWER



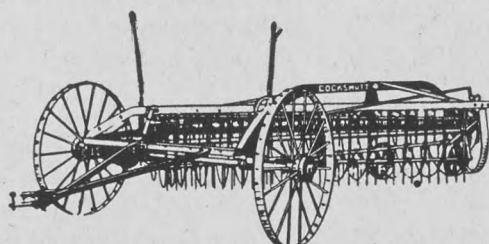
Enclosed bevel gears and clutch. Eccentric bushing for aligning cutter bar.

New 15A TRACTOR MOWER



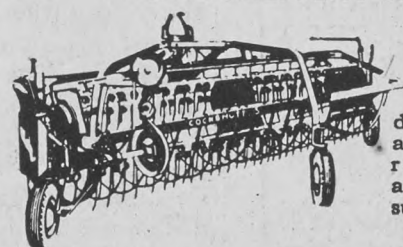
Cuts up to 40 acres per day. Adaptable to nearly all makes of tractors.

New "4" SIDE DELIVERY RAKE



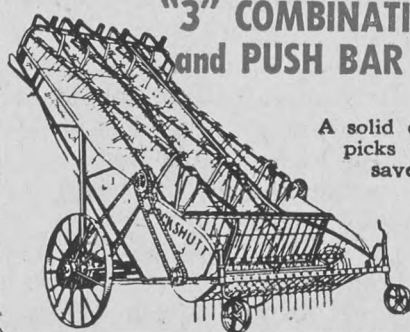
4-bar cylinder gives greater capacity. Main bevel drive gear and pinion enclosed in oil bath.

New "5" 4-BAR POWER TAKE-OFF SIDE DELIVERY RAKE



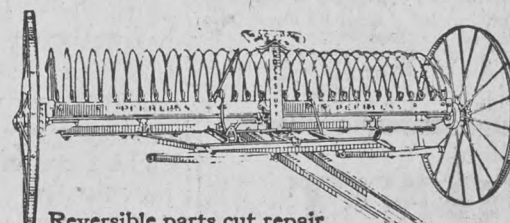
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"3" COMBINATION CYLINDER and PUSH BAR HAYLOADER



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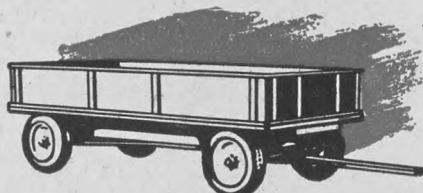
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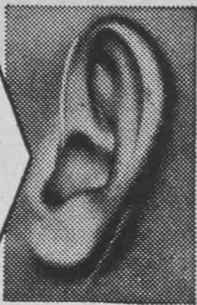
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this tendency: The highest yielding variety of barley having the highest average bushel-weight, namely, San-alta, has been dropped from the recommended list of varieties for Alberta. The principle reason for its declining use is the fact that it is not a very early variety and therefore not so suitable for fighting weeds.

A farming practice that would give higher yields and higher acre profits on fewer acres would give a return sustaining a good standard of living for more people, without aggravating the problem of burdensome surpluses for the country. The net result should be: No big weed problem, no expensive weed sprays, or commercial fertilizers needed, more satisfaction of quality accomplishment and a little more leisure and happiness in a better and more thickly-settled community. —T. C. Pangle, Alberta.

Argentine Black Rape

DURING the war there was a great demand for fats and oils of all kinds. Attempts were made in Canada to increase farm crops such as flax, sunflowers, soybeans, and rape seed. The production of soybeans was largely concentrated in Ontario. Sunflowers for a time were produced both in Saskatchewan and Manitoba, but are now concentrated largely in southern Manitoba adjacent to an oil plant established at Altona. Flax seed in the early years of the war was produced principally in Saskatchewan which grew about 75 per cent of Canada's flax crop. During the recent years and particularly in 1948, Manitoba increased flax production very substantially and last year seeded over a million acres to this crop, which was approximately one acre out of each eight acres of cultivated land in the province.

Rape seed grown in Canada, particularly in the prairie provinces, is principally Argentine Black Rape and is confined especially to the northern part of Saskatchewan. Production of this crop also increased very greatly in 1948, the Saskatchewan output amounting to 85,600,000 pounds as compared with 21,162,000 pounds in 1947. Yields of Argentine Black Rape are approximately 1,000 to 1,500 pounds per acre and the oil content of northern grown seed is particularly high. The oil is extracted at plants located at Moose Jaw and Saskatoon and is particularly desired as a marine motor oil. The seed has sold in recent years at six cents a pound, but to what extent the demand for rape seed oil will be maintained at its previous levels is perhaps doubtful.

Seed Should Be Treated

IT IS, of course, always difficult to calculate the actual loss from smut diseases, because of the variable degree of infection from year to year and from farm to farm. Generally speaking, the best estimates available indicate that if there is a 10 per cent infection in a field, the loss in yield is likely to amount to approximately 10 per cent. The average infection over the prairie provinces may never have reached this figure, though on individual fields or farms it is quite possible. Dr. J. H. Craigie, Dominion Botanist, some years ago calculated that the annual average losses from smut in the province of Manitoba alone for the period from 1916 to 1937, inclusive, amounted to \$601,000

or 1,466,000 bushels of oats; \$416,000 or 916,000 bushels of barley and \$203,000 or 197,000 bushels of wheat, making a combined average annual loss in Manitoba from smuts alone of \$1,390,000.

Seed treatment is not expensive and for the covered smuts, where the seed is carried on the outside, it is fairly simple. The loose smuts of wheat and barley are carried over inside the seed and are much more difficult to control, although treatments are available suitable for small lots of valuable seed.

In the case of bunt of wheat (covered or stinking smut), covered smut of barley, false loose smut of barley and the covered and loose smuts of oats, the same treatment will do the trick. Some varieties are more resistant to smut than others, so that resistant varieties should be used where these are suitable to the district. Likewise, it is a simple precaution to clean the seed well before treatment. Formalin properly applied at the rate of one pound of formalin to 30 gallons of water, or enough to treat about 40 bushels of seed, will control these smuts, but may injure the seed. Treatment should be given with a seed grain pickler, or the formalin may be sprinkled on the grain while it is being turned over with a shovel. After treatment it should be covered with burlap for four hours and then spread out to dry overnight. Hulless oats should not be treated with formalin. For small quantities one tablespoonful of formalin is required for each one gallon of water.

For these diseases mercury dusts are recommended as a rule, at the rate of a half-ounce per bushel of seed. Oats and barley should be treated a week before seeding, and wheat at least a day before seeding, and it is advisable to use the proper machine for applying the dust. These dusts may also be used as a wet treatment, by mixing one part of dust to each hundred parts of water by weight, or eight ounces to 40 gallons. The seed should be dipped in the liquid for five minutes then allowed to drain and dry.

The most practical treatment for loose smut of wheat and barley is to dispose of infected grains for feed and obtain registered or certified seed. Another method is to plant an isolated seed plot and then pick off any smutted heads as soon as they appear, put them into paper bags and burn both bags and smut. Seed from such a plot can probably be safely used the following year.

Where small lots of valuable wheat or barley must be seeded, even though they carry an infection of loose smut, the hot water treatment can be used. The method is to soak in cool water for six hours, then place in wire baskets or loose bags and dip for 11 minutes in water held at 129 degrees F. for wheat, and 125 to 126 degrees for barley. Then take the seed out and cool immediately in cold water, spread in a clean place to dry for several days before seeding. Even with this method, it may be necessary to rogue out the occasional smutted head in the subsequent crop during the growing season.

If you don't believe your seed needs treatment for smut, inquire of your agricultural representative as to the nearest place to which you can send a sample of seed for examination. Then you will know for sure.

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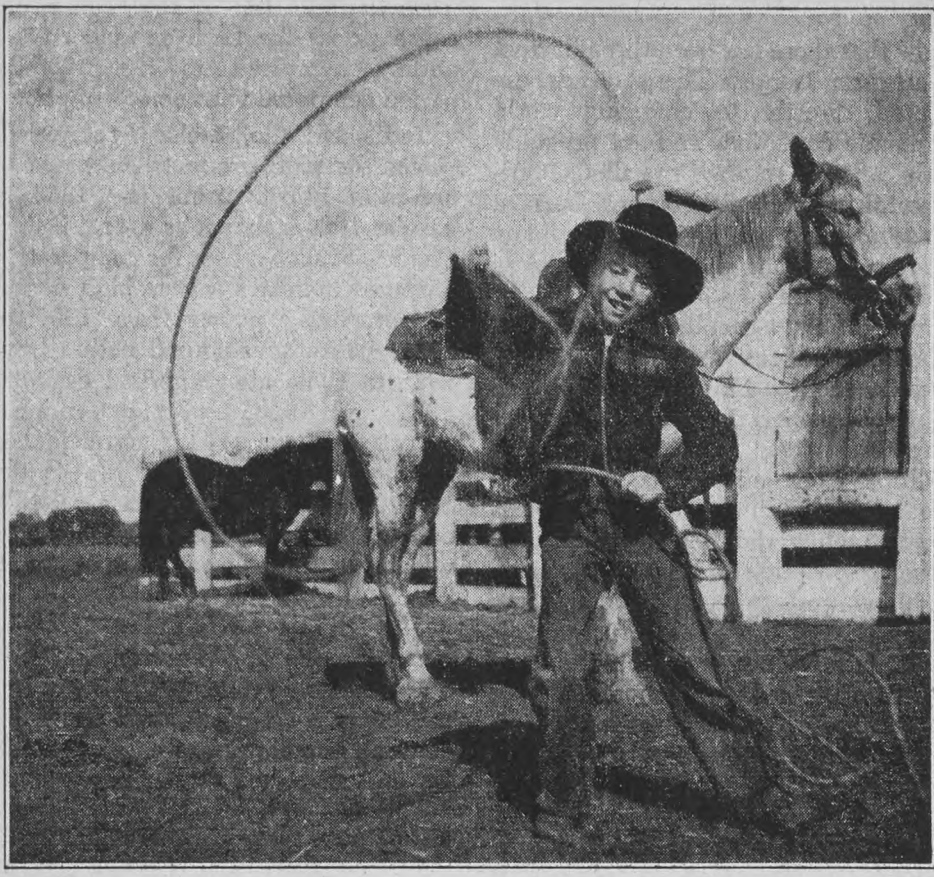


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FARM YOUNG PEOPLE



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Volunteer Club Leaders Wanted

Lack of good local leadership holding up expansion of club program.

AT the present time only about five per cent of the young people of club age in rural Canada are being reached by junior clubs. In the United States around 18 per cent of the same group are being reached.

These facts were revealed by J. Chas. Magnam, president of the Canadian Council of Boys' and Girls' Club Work at the annual meeting recently held in Saskatoon. He pointed out further that the key to the expansion program consisted of voluntary local leaders who were vitally interested in club work and who had the necessary qualifications to provide good leadership. At the present time 288 of the 3,507 clubs in Canada are operating without leaders. It is interesting to note that of the four western provinces British Columbia is the only one that has any clubs without leaders. The majority without leaders are in Quebec and Ontario.

T. A. Erickson, who for 30 years was 4-H State leader in Minnesota, told the meeting that even in Minnesota they had found the lack of local leadership a great handicap. Local leaders serve as the connecting link of the local club with the Extension Service and agricultural colleges. Their contribution is of inestimable value in the expansion of any club program.

He had a simple definition for club work: "To help boys and girls understand, appreciate and make use of the fine things they have in their own homes and environment." In other words, the objective of club work is not to produce a champion, and sell it at a high price, not to win a trip to the Toronto Royal. The true objective lies much nearer home. It is to produce a champion boy and girl.

Mr. Erickson outlined a pretty stiff set of qualifications that the ideal volunteer leader should possess. The leader should be liked and respected

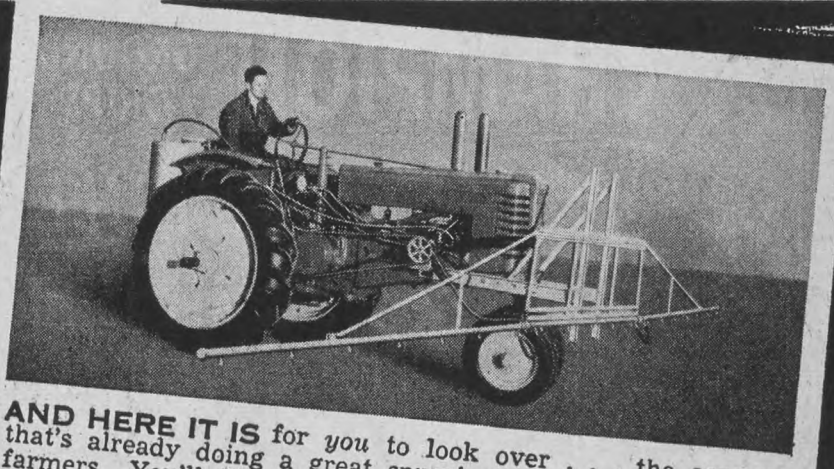
by the parents and the community; have a sincere liking for boys and girls; have a strict standard of sportsmanship and honesty; be enthusiastic about club work; be liked by boys and girls; be unselfish—enjoy working with others; be a good co-operator and have an interest in better community and rural life.

Added to this if it is possible the 4-H clubs like to get a person who knows the subject to be taught, who will plan the work ahead, who will get others to assume responsibility and who will persevere in the face of indifference.

IT can be readily seen that leaders with all of these desirable characteristics are unusual people and are hard to find. Not many of us could make the perfect leader, and when you add the fact that most of our local leaders are very busy farmers and farm wives who spend time with the clubs at the expense of farm work the difficulty increases. This means that a great deal of the responsibility falls back on the club members. If the members appreciate the qualifications desired in the leaders and look forward to the possibility of being leaders themselves then the leader has an easier job. If the members are informed, enthusiastic, co-operative, unselfish, and have an interest in better rural and community life the leader will have no difficulty in getting a good club. If the members lack these qualities in any large measure the leader's job will be difficult.

Club work boils down to a matter of co-operation. If the members and the leader all work for a better rural life and improved young people and are conscientious about it, a good club and a good club program is assured. If the club members are not prepared to co-operate and accept their share of the responsibility the leader will find his job impossible.

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Fair Basis

Continued from page 14

show that there has been three distinct short-term trends. These trends are related directly to changing world economic conditions and are probably little related to any so-called "agricultural revolution." It has been a favorite topic of writers for many years, ever since the first steel plow was used, that agriculture is in the midst of an agricultural revolution. The advent of new machines and techniques, such as the steel mouldboard plow, the reaper, the binder, the power thresher, horses replacing oxen, the multiple-horse outfit, the steel-wheel tractor, the large combine, the rubber-tired tractor, the one-way disc and other cultivators, and finally the small combine and row-crop tractor, corn pickers and other modern gadgets have, successively, been going to revolutionize agricultural production and lower prices for farm products compared with the prices for other products. These writers only look at the agricultural side of the picture. They forget to look at the great advances which are steadily being made in the changing techniques of general industrial production, mining, transportation and the like. It is the differing rates in the adoption of new techniques in agricultural and non-agricultural production which is the dominant factor causing changes in the relative prices for farm and non-farm products. In addition to the changing rate of new methods of production between agriculture and industry there is the question of limitations of resources for agriculture and industry. Apparently over the 58-year period new techniques in agriculture have been about balanced by new techniques in other industries.

ABOUT 1940 the Dominion Bureau of Statistics computed a new index number for the wholesale prices of Canadian farm products, based on the five-year period 1935 to 1939 taken as 100. This index is published monthly. They also publish two other indexes using the 1935 to 1939 base as 100. One is an index of prices received by farmers at the farm or local market and the other is an index of the costs of things that farmers buy, including farm wages, interest rates, other farming costs and the farm family living costs. The index of prices at the farm only goes back to 1935. The index of farmers' costs now is extended back to 1913.

It is quite useless to compare changes in prices for farm products and

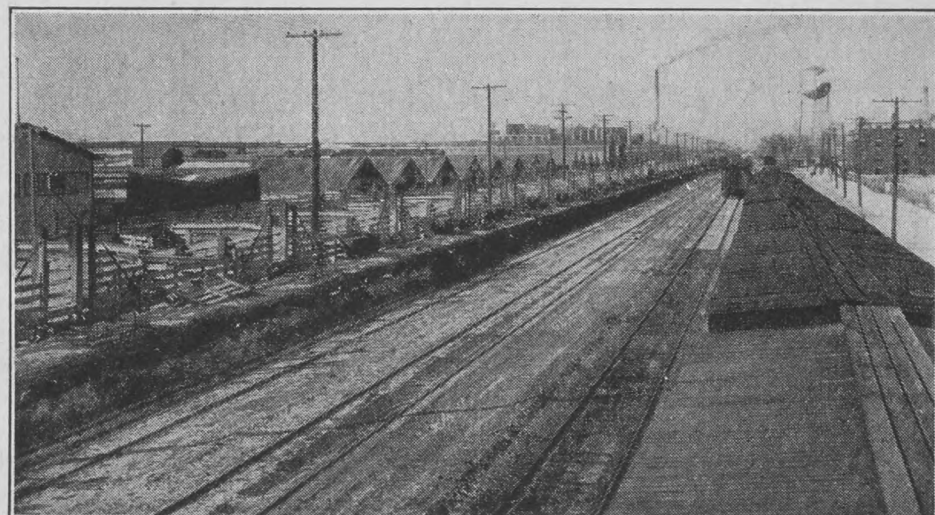
changes in farmers' costs, using both the published official indexes on the 1935 to 1939 base as 100. This is because prices for farm products were unduly depressed in the 1935-39 period compared with non-farm prices.

In Chart 2 the purchasing power of prices for farm products, in terms of non-farm prices, using the 1935-39 base as 100, is shown as a dotted line. The use of such a base for comparative purposes indicates a very high period of purchasing power from 1907 to 1921, a far-above-normal period from 1925 to 1930, above normal in 1936, 1937 and 1938, and above normal every year since 1941. Such evidence clearly indicates that the use of the 1935-39 base as a normal period of balance between agriculture and the remainder of the economy, is unsound.

UNFORTUNATELY the index of the costs of things farmers buy does not go beyond 1913. But when this index is compared with the index of non-agricultural prices since 1913 we find that they closely correspond, taking the period 1913 to 1948 as a whole. This leads us to believe that if the index of the costs of things farmers buy were computed back to 1890 it would show the same relationship to farm prices as we see in Chart 2, using non-farm prices for comparative purposes.

In choosing a suitable base, not too far distant, to measure the relative position of farm prices, we must, of necessity, not use either the early 1930's or the 1935-39 period, for the reasons given above. We clearly could not use a period as far away as 1920 or the earlier years. The period 1921 to 1924 was a period of severe worldwide deflation. So we are narrowly confined to the shelf from 1925 to 1929, or the period from 1940 to 1948, —the war and post-war periods.

The period 1925 to 1929 was a period of relative stability between prices for farm and non-farm goods. It was a period of recovery from the first post-war depression of 1921 to 1924. Prices for both farm and non-farm products fell slowly from 1925 to 1929 but at approximately the same rate, so the purchasing power of farm products was fairly stable as shown in Chart 2. During this period industrial production and employment rose from below normal in 1925 to above normal in 1929. Probably the average for the five years is about as close to an average situation as we can observe over a long period of time. Moreover, during the overall period 1925 to 1929, consumers were not seriously disturbed about the



This long row of unloading chutes gives some idea of the extent of the St. Boniface stockyards.

price of food. It was for these reasons that the Canadian Federation of Agriculture chose the period 1925 to 1929 as a base period of balance for comparing present purchasing power of farm prices and retail food prices, when presenting their brief to the Royal Commission on Prices.

Another base period which might appeal to some people as being more recent is a group of years from 1941 to 1948. The comparative purchasing power of farm products from 1941 to 1948 in terms of costs of things farmers buy for living and production, is shown in the following table.

Parity Ratios—or Purchasing Power of Farm Products

Year	1925-29 =100	1942-46 =100	1941-48 =100	1935-39 =100
1941	83	84	84	93
1942	90	91	91	101
1943	96	97	97	108
1944	101	102	102	113
1945	104	105	105	116
1946	106	107	107	118
1947	105	106	106	117
1948	109	110	110	121

The use of either 1942-46 or 1941-48 as base periods from which to measure the purchasing power of farm products would result in only a fractional difference from using the 1925-29 period as a base. The use of the 1935-39 period leads to a very erroneous picture of the relative level of the prices of farm products within recent years.

The purchasing power of farm products on the 1925-29 base is shown in Chart 1.

Likely the 1942-46 base period would be a satisfactory base. Being more recent, it would appeal to most people as being more realistic. The presently published index of the cost of things farmers buy is based on the weighted importance of the items farmers purchased in 1938. Only minor changes in the index have been made since then. What we need most of all is a complete revision of this index, using the weighted importance of the purchases of farmers for production and living in the most recent post-war years. If this were done there is no reason why 1942 to 1946 should not be as good a base period as any for measuring changes in the purchasing power of farm products.

Using the official data published by the Dominion Bureau of Statistics on net farm income, farm capital, and charging wages for the farm operator at the average wage received in the manufacturing industries, we find that the loss for Canadian agriculture from 1935 to 1939 averaged 4.3 per cent per year of the total farm capital. From 1942 to 1946 the net gain averaged a little less than three per cent on the total farm capital. By this measure the period 1942 to 1946 cannot be considered as too high a period to use as a base in measuring the relative position of agriculture.

In spite of the objections of some economists, and of a number of responsible government officials, the best answer to the need for some method of measuring the relative position of farm prices is the words spoken by Lord Kelvin in 1889: "When you can measure what you are speaking about and express it in numbers, you know something about it, but when you cannot measure it, when you cannot express it in numbers, your knowledge is of a meagre and unsatisfactory kind."

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35.00	18.00	9.25	38.00	19.50	9.90
4.00	2.50	1.50	5.00	3.00	2.00
18.25	9.60	5.05	19.75	10.35	5.35
33.00	17.00	8.75	36.00	18.50	9.50
12.00	6.50	3.50	13.00	7.00	3.75
Approved			R.O.P. Sired		
16.75	8.85	4.65	18.25	9.60	5.05
30.00	15.50	8.00	33.00	17.00	8.75
12.00	6.50	3.50	13.00	7.00	3.75

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R.O.P. Sired			R.O.P. Bred		
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36.00	18.50	9.25	39.00	20.00	10.25
4.00	2.50	1.50	5.00	2.75	1.50
20.00	10.50	5.25	21.50	11.00	5.75
35.00	18.00	9.00	38.00	19.50	9.75
12.00	6.50	3.25	13.00	7.00	3.50
Approved			R.O.P. Sired		
17.00	9.00	4.75	19.00	10.00	5.00
32.00	16.50	8.50	34.00	17.50	8.75
11.00	6.00	3.00	12.00	6.50	3.25
17.00	9.00	4.75	19.00	10.00	5.00
34.00	17.50	9.00	35.00	18.00	9.00

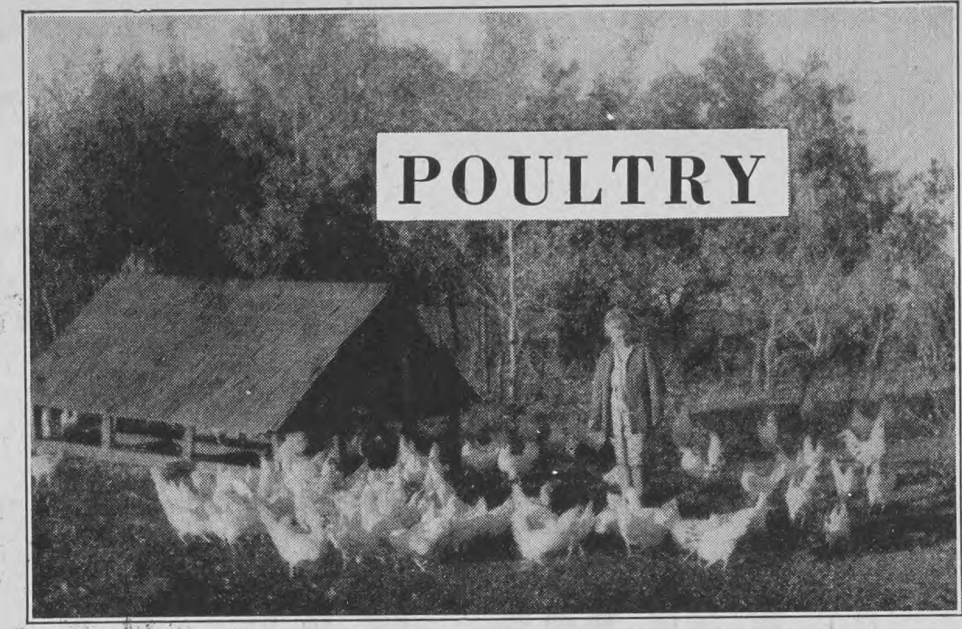
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17.00	9.00	4.50	18.00	9.50	4.75
34.00	17.50	8.75	36.00	18.50	9.25
4.00	2.50	1.50	5.00	2.50	1.50
17.00	9.00	4.50	18.00	9.50	4.75
33.00	17.00	8.50	35.00	18.00	9.25

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Miss May Matheson feeding some of her R.O.P. pullets on range.

From Teaching To Poultry Breeding
"The most interesting years of my life," says Miss May Matheson.

R AISING poultry can be very interesting. Miss May Matheson, Binscarth, Man., was so convinced of this fact that nine years ago she quit teaching, in spite of the fact that it was a profession she had followed for 13 years, and devoted her time to the raising of poultry. She has never regretted her decision.

For a number of years she raised her poultry on her parents' farm. However, in 1947 she put up a poultry house on the outskirts of Binscarth and developed an R.O.P. flock. The decision to switch into R.O.P. was partly based on the fact that Miss Matheson, in order to sell eggs to the hatcheries, had to buy R.O.P. roosters, which cost her around five dollars each. She decided she could raise and sell them as well as the next fellow. At the present time she has about 500 Leghorn birds, of which 100 are R.O.P. certified hens.

Miss Matheson's selection of birds is based on hatching and progeny records. She selects birds that have a good record and places 12 or 13 females in an individual pen with one male, and trap-nests. Records are made of all the eggs, after which they are sent to the R.O.P. Co-op hatchery in Winnipeg for hatching and the chicks returned to her. She keeps careful records in order to study the characteristics of different families and also for submission to authorities in Ottawa. She keeps records of chicks that are abnormal at hatching, that die or are sick and the reasons for death or sickness. On the basis of these records she makes selection by families for high hatchability, livability and production.

She keeps the best pullets for breeding. Cockerels, after being inspected, banded, and passed by a government inspector, are sold to other breeders. Incidentally, Miss Matheson cannot speak too highly of the government inspectors. She looks

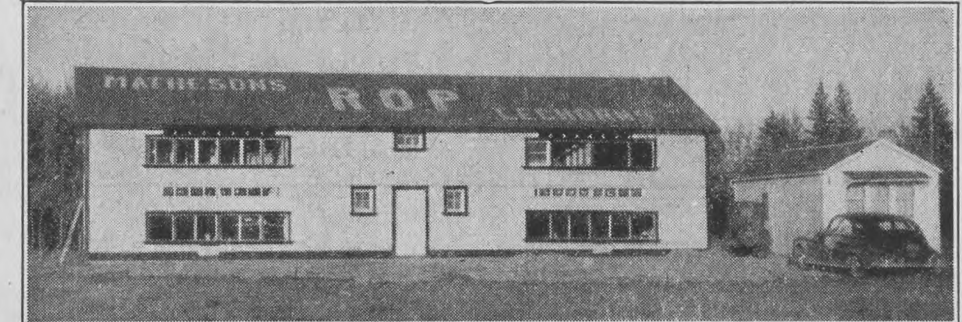
on them as a mine of information. They have excellent knowledge of the poultry business, and, added to this, in the course of their travels they carry news of the experience and practices of one breeder on to others. In this way they help to make new ideas travel rapidly.

She plans the feeding program carefully. Birds on range are fed crushed grain and developing concentrate. The five acres of range, which is used on a three-year rotation plan, consists of white Dutch clover, brome and native grass. If necessary whole oats is fed to hold the pullets back so that they will not start laying until they are a full six months old.

Miss Matheson never feeds a laying concentrate. The birds are shifted directly from a developing concentrate to a breeding concentrate. The reason for this is that she feels that the birds are upset when the basic feed is changed, and so she keeps changes to a minimum.

When the birds are housed she feeds them a mixture of crushed grains—wheat, oats and barley—mixed with a commercial breeders concentrate. Whole oats is fed for scratch in the litter. Every day, around four o'clock, whole wheat, with some cod liver oil mixed with it, is fed on top of the mash in the hoppers. Starting some time in January a warm, moist mash is fed every day around 11 o'clock. The birds also get green feed every day—alfalfa soaked in water and fed in a moist condition. When pullets are on the range they receive about one-sixth of a pint of cod liver oil per 100 birds each day. This is gradually increased until it amounts to half a pint per 100 birds each day. Water is kept in front of the birds at all times.

Miss Matheson is leader of the Binscarth Poultry Club. On Saturday nights it is a fairly regular procedure



The \$3,000 invested in this poultry house and the equipment in it, was earned by the Leghorn flock.

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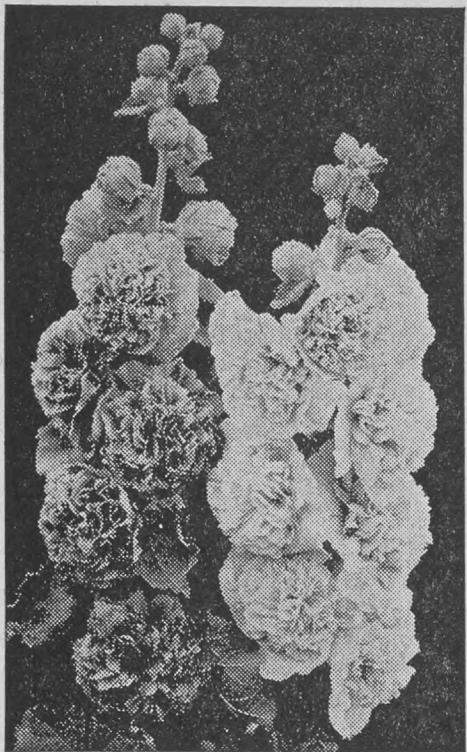
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Barred Rocks	18.25	9.60	33.00 17.00
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INCORPORATED 2ND MAY 1870

for as many as possible of the nine club members to go around to her place. Here they study all the different phases of poultry production, followed by culling and judging practise, and competitions. The club also has some social activities. As might be expected this kind of membership leads to an enthusiastic club membership. Though very young the club already has nine members and hopes and expects to gain more.

Miss Matheson herself is enthusiastic about the club. She is also enthusiastic about the poultry business. She considers it a pleasant way of making a satisfactory living. "I've been in the poultry business for nine years, and I consider them the most interesting years of my life," said Miss Matheson.

Chore Time

TOO often on the farm we are left wondering where the time went when half the morning is gone before the chores are done. For most farmers the poultry flock is not the main enterprise, so if it takes too much time it is likely to be discontinued. The Department of Agricultural Economics, Cornell University, recently conducted a study, the object of which was to find the time spent and distance travelled by a man doing poultry chores. In this way they were able to find the amount of productive work accomplished per man.

Studies were made on a large number of farms. They found that the most important and time-consuming jobs are gathering eggs and feeding and watering the hens. In the aggregate these two jobs amount to 77 per cent of the daily poultry chores. If a producer wishes to increase his labor efficiency these look like the first jobs to attack.

The total time required to care for 1,000 hens averaged 78.2 minutes per day, the greatest amount of time required on any farm being 125 minutes and the least on any farm 41 minutes. The distance travelled in a day averaged 5,703 feet, the individual farmers varying over a range of from 2,951 feet to 8,210 feet.

Gathering eggs accounted for 24.4 minutes per 1,000 hens per day, or one-third of the total time. Feeding consumed 23.2 minutes, or a little less than one-third of the total time. Filling and cleaning the waterers consumed 12.5 minutes or 14 per cent of the total time. (This varied very widely, because some farmers had automatic water supply systems, and some carried water from a pump.) Walking between buildings used up 10.5 minutes or 13 per cent of the total time. The rest of the time was consumed by miscellaneous jobs.

The Poultry Outlook

IS 1949 going to be a good year for poultry producers? Many producers believe that it won't. C. W. Traves, Alberta Poultry Commissioner, does not agree.

The egg contracts were reduced from 70,000,000 dozen to 46,000,000 dozen. However, there was a carry-over of 14,000,000 dozen unfilled to the end of January, leaving a market for 60,000,000 dozen in 1949, or a reduction of only 10,000,000 dozen. In view of the heavy reduction of chicks in the 1948 hatching season, and the marketing of many flocks, there is every indication that the 1949 contract will not be filled.

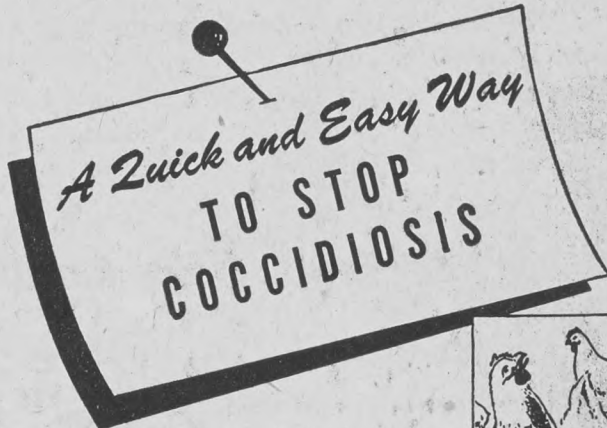
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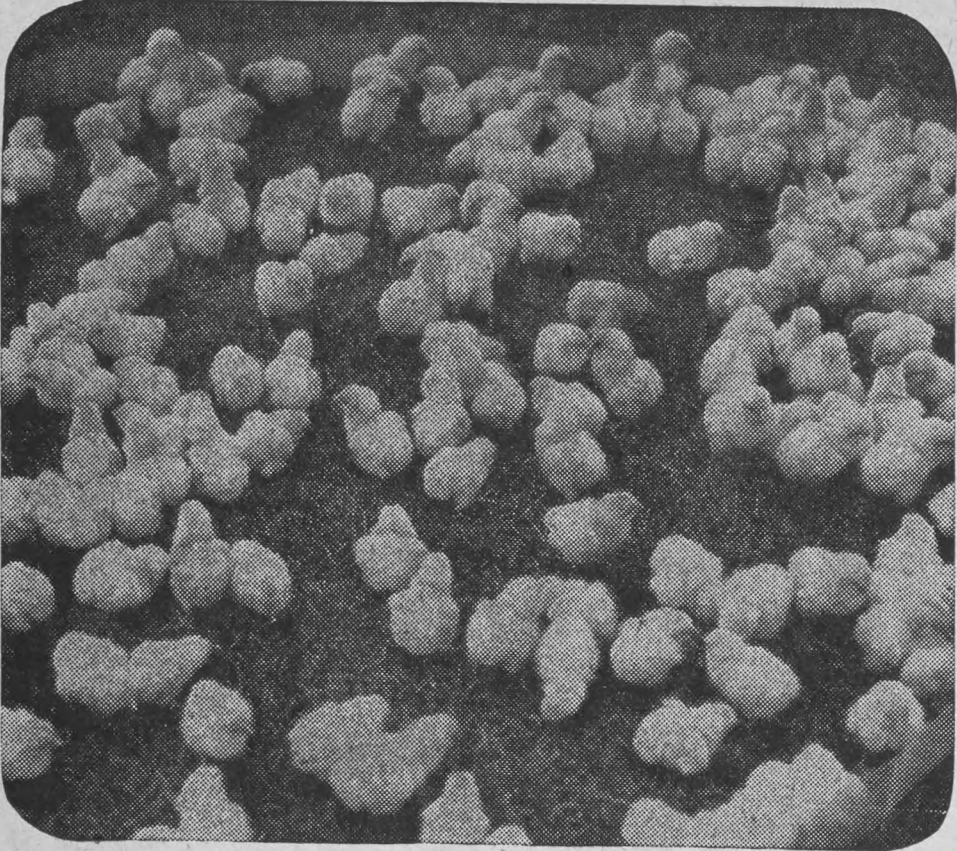
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If you can raise 90% of your chicks past the six-week danger point, you're well on your way to bigger poultry profits. Here's the way to do it!

Start with good chicks . . . chicks from well-bred, well-fed, healthy stock.

Give them good care . . . clean, dry, well-ventilated but draft-free quarters . . . plenty of water . . . lots of room to grow . . . and *very*



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"Miracle" Chick Starter has everything a baby chick needs to feather out nicely, grow sturdy bones and healthy tissue. It's a perfectly balanced blend of nutritious, quality ingredients . . . designed to get chicks off to a fine, fast start. For best results, keep hoppers full.

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Don't start gambling, once your chicks are past the danger point. Follow through with "Miracle" Growing Mash. Pullets will develop faster . . . start laying earlier during the high-priced egg months. Your increased profits will repay the cost of "Miracle" Growing Mash many times over. All "Miracle" Poultry Feeds are available in both Regular and Pellet form.



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The argument is also advanced that high feed costs have reduced the margin of profit. There has been an upward trend in feed prices, but feeds are going down in price in the United States, and imports of corn are lowering poultry feed costs already in Ontario and B.C. The same thing could soon happen in western Canada.

Higher feed costs and lower prices can be offset by better production techniques. Feeding that keeps poultry in first-class laying condition allows producers to get a high average rate of eggs for a longer laying period. Birds that are free from lice and mites will produce more eggs. If flocks are regularly culled the poor producers will not eat up profits. More grade A eggs produced, especially during the spring and early summer, will increase returns. Also, high prices are being received for top quality market poultry and here again careful production gives an opportunity for increased returns.

Early chick orders are not as large as the poultry outlook justifies. Indications are that there will be a shortage of eggs for the domestic market earlier than usual, and with the decrease in early-hatched pullets this shortage of eggs, with accompanying high prices, may last for a considerable time.

Added to this, poultry meat stocks are less than half what they were at this time last year. Fall should see a good market for well-finished poultry, at prices which will allow a margin of profit.

Mr. Traves advises producers to get their chicks as soon as possible. He advises the purchase of mixed chicks as he expects cockerels to return a good profit in the fall. A good market is expected for ready-to-lay pullets next fall, so surplus pullets will also fetch good returns. The poultry commissioner feels that the poultry outlook for the coming fall and winter is as bright as it ever was.

Keeping Poultry Near Home
TURKEYS given free range are subject to a variety of dangers including predators, storms, and disease or worms around chicken runs. Added to this they can be a nuisance when they elect to roost on machinery or farm buildings.

If turkeys are grown in confinement they are less work, less of a nuisance and subject to less hazards. Alternatively they can be grown in yards—under partial confinement—but in this case they must be placed on fresh ground every year and considerable fencing is required. The total confinement plan requires no fencing and no moving from year to year and the turkeys are out of danger, and out of the way. Labor is reduced, as feeding and watering is done from the outside, and droppings fall to the ground below, to be removed at the operator's convenience.

E. Van Nice, Scott Experimental Station, Scott, Sask., suggests that turkey poults can be brooded with regular chick-brooding equipment. If a porch with a coarse-screen floor is provided, it will gradually harden

them to outside conditions, so that they will be ready to go to permanent quarters at an age of 10 to 12 weeks.

The average small flock-owner will do well to purchase ready-mixed feeds for the different stages of growth. Under total confinement, feather picking sometimes gives trouble, but can be controlled by the use of turkey bits made for the purpose.

There has not yet been a great deal of work done on growing turkeys on wire. However, publications on the subject are available from the Poultry Division, Central Experiment Farm, Ottawa, and from the Dominion Experimental Stations at Scott and Swift Current, Sask.

Using Broody Hens

A BROODY hen insisting on crowding in beside laying hens and so breaking eggs and dirtying nests, can be a constant source of annoyance.

Instead of repeatedly throwing her off the nest or cooping her up, why not make her useful by giving her goose or turkey eggs to hatch?

Most farm wives find the extra time to raise a few of these birds and usually a number of eggs have accumulated before there are means of hatching them. It seems wasteful to let a goose or turkey hen go broody when with a little tact, she can often be urged to lay again.

Experts in raising geese and turkeys get remarkable results with an incubator. For an amateur little labor is involved if hens are set in boxes or crates, placed side by side with a long board laid over them, with a set of geese or turkey eggs. With feed and water placed close by all the attention required will consist of removing the board once a day and replacing it after the birds have fed. The hens will soon learn that this is feeding time.

The first laid eggs are rarely all fertile, therefore the best procedure is to start two hens at the same time, with seven eggs each (seven eggs per hen is the limit for goose eggs and about 12 for turkey eggs), so that after candling them about two weeks later and discarding those that turn out "clear" there will be only enough left for one hen. If more than seven eggs remain divide them between the two.

Candling is done after dark by means of a flashlight held behind the eggs, a live one showing dark while those that are infertile are almost as light as a new egg.

It is good practice to thoroughly delouse the hens before hatching season. They should be dusted at least three times. If this is not done the lice will settle on the chicks as soon as they hatch. Turkey chicks have no resistance against lice and will die in a few weeks if infested with them. If they settle on the heads of goslings they can be dispelled by rubbing cooking fat into the down.

In urging a goose to get back to laying destroy the nest, or place something over it as soon as she goes broody, and keep her away from the place. She will forget about it in a few weeks. Keep an eye on her, for she may find another place to nest.

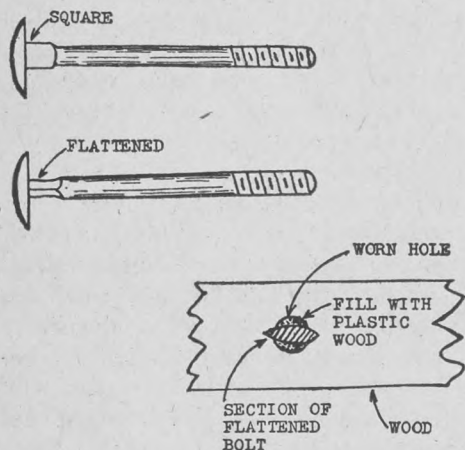
It is not uncommon for a goose to lay a small set of 10 to 13 eggs late in the summer, hiding the nest well away in tall grass or by an old straw stack. She may surprise you one day by proudly displaying a healthy brood. —Anne S. Rempel, Man.

Workshop In April

Seeding and cleaning equipment should be ready for use.

Secure Bolt Heads

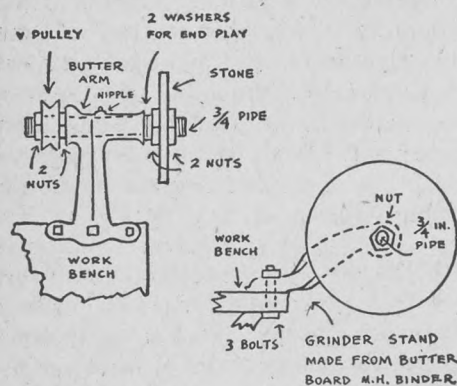
Bolt holes in wooden blocks frequently become worn to the point where they will not hold the carriage head from turning as the nut is screwed on or off. If the piece of wood cannot be replaced, it is a good stunt



to flatten out the square shoulder of the bolt head. This will make it spread out and when it is driven into the hole it will prevent the bolt from turning. For a more secure job, the enlarged hole in the wood may be filled with plastic wood.—W. F. S.

Home-made Bench Grinder

A stand for a bench grinder can be made on the arm of a binder butterboard. A $\frac{3}{4}$ -inch pipe is used for the axle through the centre of the casting and should be long enough to permit the mounting of a V-pulley on one end and the grinding wheel on the other. The oil hole in the casting should be tapped to take a grease nipple. For



general farm use, a wheel about six inches in diameter will be found to be most practical. The surface of the wheel should travel at from 4,000 to 6,000 feet per minute and never over 6,000 as there is danger of the wheel flying to pieces. Thus a six-inch wheel should be driven at about 2,500 to 3,000 revolutions per minute.—E. P.

If your clothes line rusts, clean the rust off and then coat it with shellac, using a cloth or an old paint brush.

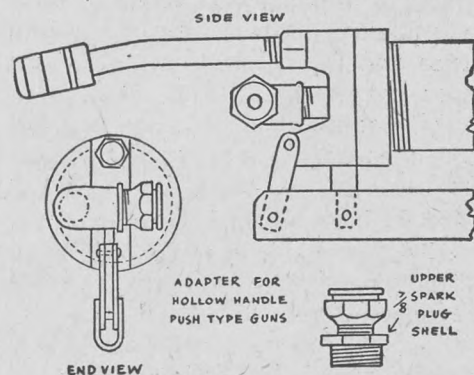
Saving On Oil Filters



Instead of buying a new cartridge for my oil cleaner each time it is dirty, I have saved a lot of money by reconditioning the old ones. To do this, the tin bottom is removed from the element with a can-opener and the dirty cotton waste discarded. The can is then washed out thoroughly, repacked with clean material and the bottom soldered in place. The reconditioned cartridge appears to be just as good as a new one.—F. N.

Grease Gun Filler

The track greasers supplied with track-type tractors hold 25 pounds of grease and can very easily be adapted to filling hollow-handle or lever-type guns. This is much more convenient, quicker and cleaner than filling from cans. The hollow-handle guns will take

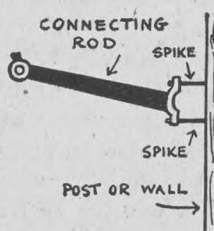


a $\frac{5}{16}$ -inch spark plug shell. It should be tapped to take the $\frac{5}{16}$ -inch grease nipple as shown and then the whole assembly screwed into the handle of the gun.

For the lever-type gun, it is preferable to drill a $\frac{27}{64}$ -inch hole in the head as shown by the small dotted circle in the end view. Tap the hole with a $\frac{5}{16}$ -inch pipe tap and insert a $\frac{5}{16}$ -inch nipple, $1\frac{1}{2}$ inches long. On the end of the nipple tighten a 90-degree elbow and into this screw the grease nipple. This arrangement gives the fittings protection from the head of the gun and the pipe to the zerc fitting. It also provides clearance for the adapter of the greaser when the gun is being filled.—D. L. T.

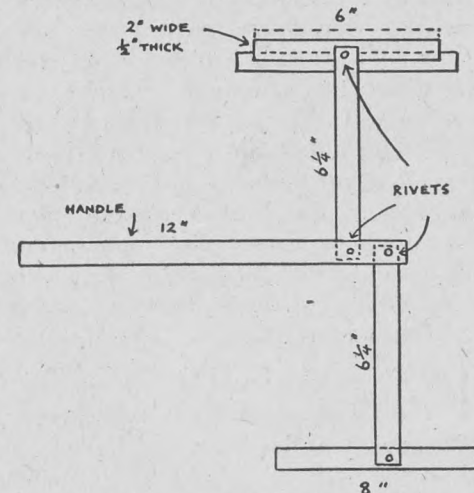
Harness Pegs

Strong, handy pegs for harness or other hung equipment, can be made from old, discarded car connecting rods. A couple of five-inch spikes through the bolt holes of the connecting rod will hold it firmly to any wall or post.—E. R.

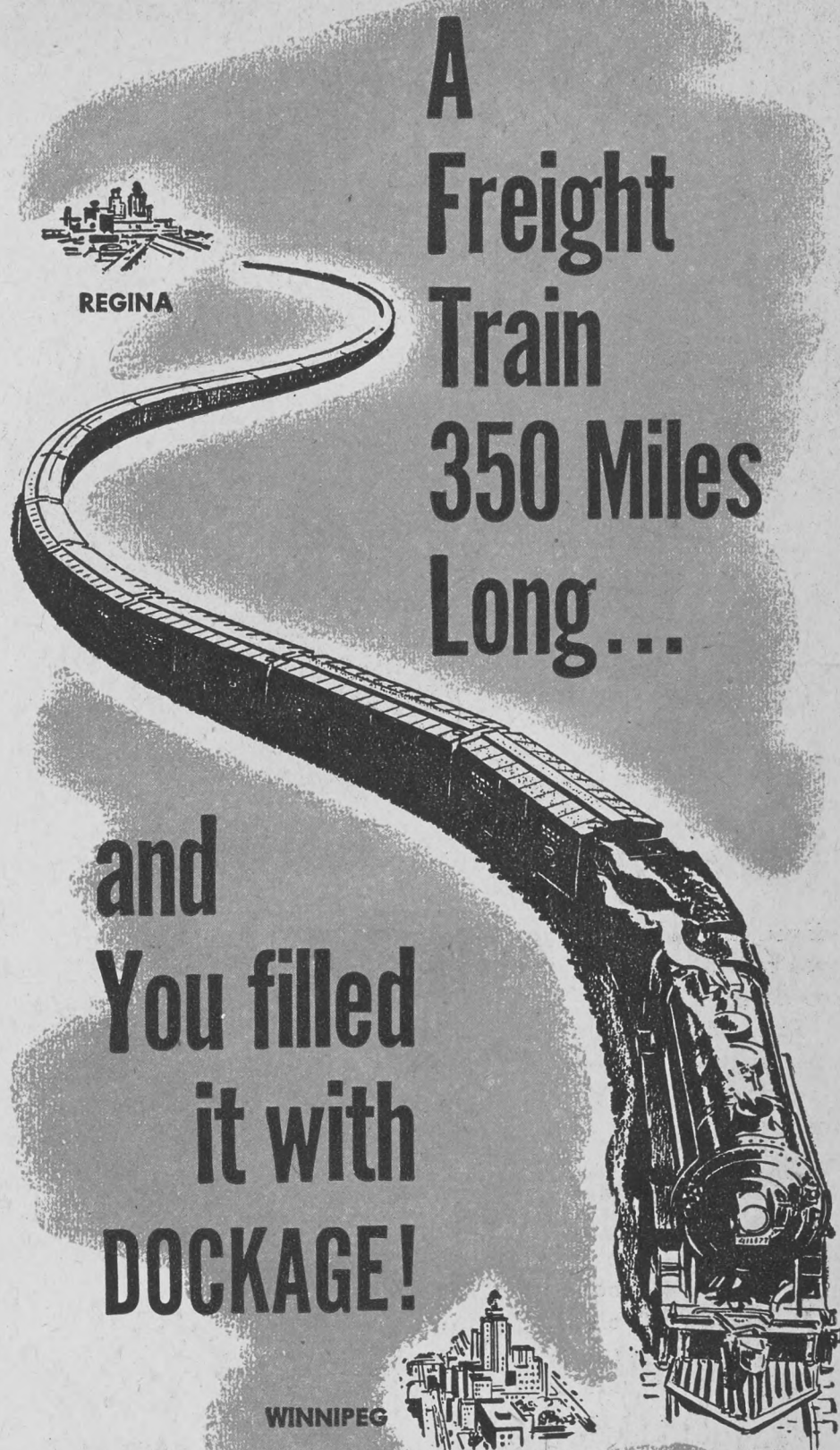


For Tight Siding

I have found this device very handy for pressing siding tightly together when building. All but one piece is of flat iron and only four rivets are required for it. By placing the upper



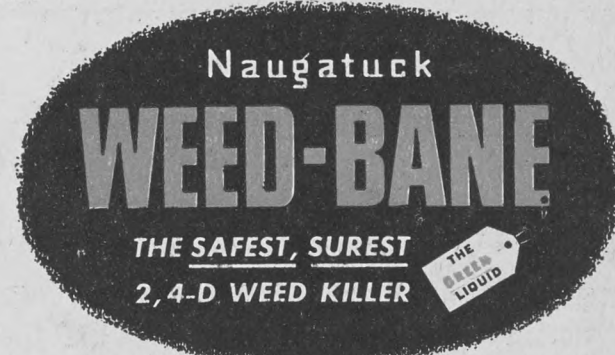
iron on the top of the loose piece of siding and the lower iron just underneath the siding which has been nailed firmly in place, the lever, when pressed down, holds the loose siding firmly in place while nailing. The device is small, convenient and makes for a tighter and better job.—C. B. D.



Figures compiled by the Board of Grain Commissioners show that Western Canada farmers shipped a total of 68 million bushels of weed seeds to Fort William and Port Arthur in the past 10 years. Enough dockage to fill a freight train of box cars 350 miles long—the distance from Regina to Winnipeg!

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Down The Peace

Continued from page 9

District "is unknown." The bulletin provides the following description of the area:

"The surface of the district is level and in parts gently rolling. The soil is a deep, rich loam on a sandy clay subsoil. The district around Fort Vermilion is best adapted to mixed farming on farms of moderate size; and in the more outlying parts there are large sections that are well grassed and afford ample feeding grounds and winter feed for extensive stock raising. Building logs, fencing material and firewood are within easy distance of practically any location. Most of the land requires but little clearing and is easily broken for crops. Good water is obtainable in the Fort Vermilion section and from 15 to 40 feet.

"... The average daily sunshine is greatly reduced by cloudy days. In summer the day from sunrise to sunset is some 18 hours long and the night itself is only a twilight. It is these long days of summer which permit of the almost miraculous growth of vegetation and its coming to maturity in the short season."

The Station today consists of 275 acres, of which approximately 250 acres are cleared. There is also an expectation that another 130 acres of crown land may be secured. Around Fort Vermilion the farming area extends only about eight miles east of the village, but it extends about 50 miles southwest along the river, in which area the settlers are mostly Mennonites, some of whom farm up to 1,000 acres. Straight south, away from the river, farming land only extends four to five miles, but straight north through a Ukrainian settlement it goes for about 23 miles. Crops grown are wheat, oats, barley, flax, alfalfa and garden vegetables. The latter are grown commercially for the mining areas at Hay River and Yellowknife, to which places they go by plane. In all there are about 3,600 quarters in the Fort Vermilion and Keg River area.

There are probably some 2,000 to 2,500 head of cattle in the district, in herds varying from 10 to 100 head or more. One good herd of Red Polled cattle exists locally, owned by Robert Gibb. On the Station a small herd of dual-purpose Shorthorns was started a few years ago and has now been built up to 13 head. Not much interest has yet been shown in dairying, perhaps the first real venture being that of the R.C. Mission, which has erected a fully-equipped barn 120x40 feet, with aluminum roof. Poultry are increasing in numbers, but as yet the farmers of the Fort Vermilion area, who number about 125, cannot more than supply the local demand. There are also half a dozen flocks of sheep in the country.

IN the opinion of Mr. Lowe, the district needs a good soil survey. The variety of the crops which seem to do well in the area was really amazing to me. I visited it in company with O. S. Longman, Deputy Minister of Agriculture for Alberta, and I am sure I can say that we were both very pleasantly surprised at the variety as well as the condition of the crops we saw on the Station. The cereals looked well-grown and heady; a fine stand of

spring seeded alfalfa was up 15 to 18 inches by August 10; cucumbers and potatoes were carrying fairly heavy loads; and, perhaps because we were getting hungry, some fine-looking sweet corn that was ready for eating impressed us very much. Mr. Lowe picked half a dozen good ears and after he had recorded the weights back at the buildings we threw them in the car. About 11 o'clock that evening, after spending several hours talking with Mr. Lowe, we entered a village restaurant and astounded the good lady, who had been a resident of the district for over 50 years, by asking her to cook the corn for us, and we explained that we wanted to be able to say that we had eaten sweet corn grown in Fort Vermilion. She cooked it for us and helped us eat it.

Most of the farmers in the district, according to Mr. Lowe, are pretty good. One man seeded 250 acres to alfalfa last year. Land was increasing in price somewhat. Mr. Lowe wasn't certain what a fair average price would be, but it was higher than in 1947, when the top price was about \$1,300 per quarter. Horses are becoming fewer in number, because farming even around Fort Vermilion is being increasingly mechanized. In the spring of 1948, Mr. Lowe said he had to try for two months to sell a good Percheron team, even at a reduced price.

The district however, has several important needs. One is meat inspection. If inspected meat could be sold from the district it could be shipped direct to places like Yellowknife, where there is an active market for food products, including about 500 tons of garden crops yearly. There is, however, no veterinary service in the country, which means that all the livestock to be sold as inspected meat must go to Edmonton, the nearest inspection point. "It would be a life-saver for the district," was the way Mr. Lowe emphasized the need for veterinary service.

THE district also needs some plants for processing farm products. It costs a lot to get cereal crops shipped out of the country. Perhaps a creamery might be useful, though some farmers now ship their cream weekly by plane to Yellowknife. One difficulty, of course, would be a lack of adequate roads for the collection of cream. The district also needs to be brought into closer touch with the Provincial Department of Agriculture; and if the provincial forage crop improvement policy could be applied in the area it would encourage the use of leguminous and other forage crops.

A lot of local wheat now goes into dog feed. The trappers cannot use frozen wheat, but when good wheat is crushed locally, then mixed with tallow and cooked, the wheat is said to make an excellent dog feed. The grain is retailed to trappers at \$3.00 per hundred pounds crushed, and the tallow is shipped in barrels from the packing plants. Fish is not easy to obtain and the trappers, therefore, rely on the wheat and tallow, which they cook and feed once each day.

Transportation out to markets in the south is, of course, expensive. The result is that farm products are relatively cheap in the district, although other things are more expensive than outside. It costs 12 cents per bushel,

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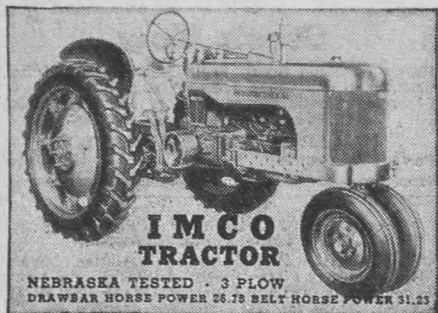
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for example, to ship wheat from Fort Vermilion to Peace River—a four-day trip of about 300 miles. From Peace River to Fort William, a distance of about 1,500 miles, the additional freight cost is 18 cents per bushel. Curiously enough, the freight rate by water for livestock is cheaper than for grain, the charge being three dollars per head for cattle and one dollar for hogs.

Two freighters ply the river, one a Hudson's Bay Company boat, which was loading at Fort Vermilion when we were there, and the other, which makes the trip in alternate weeks over the same route is owned by a private company. Each boat goes down the river in two days and comes back in four. The nearest other boat north on the waterways route is from Waterways to Fort Fitzgerald. From there via a portage to Fort Smith on Great Slave Lake, cargo can be sent anywhere, even to the Arctic.

Canadian Pacific Airlines provide a good plane service out of Fort Vermilion. A DC-3 plane, carrying from 24 to 28 passengers, handles both freight and passengers. Costs are about 25 per cent higher than by water, the freight rate from Peace River to Fort Vermilion being 55 cents per hundred.



The rate out by truck is \$2 per hundred. Mr. Lowe told us, incidentally, that Fort Vermilion is 160 air miles closer to the Yukon and northern mining markets than is Peace River, which means a difference of about \$6 per hundred pounds in lowered freight costs. The air port is only two miles from "Town" and residents themselves say that it is hard to believe Fort Vermilion is that same place now as four years ago. What with the plane service and the fact that cars have begun to come in, there are more people and more markets, and business has picked up. The Experimental Station alone provides a payroll of \$1,000 to \$2,000 monthly in salaries and wages. Fort Vermilion also handles a much heavier mail than it did three or four years ago, and the post office, incidentally, serves customers as much as 45 miles away.

Labor is available in the district, some of it better than others. Some Indians work but not many of the Treaty Indians do, because they mostly trap. The breeds are good workers, especially those who are one-eighth or one-quarter Indian. Mr. Lowe told us that the water supply is fairly good. At the Station there is a well 35 feet deep which carries only one foot of water in it. Nevertheless, they have never been able to pump it dry, though on one occasion they tried for six hours to do so.

Someday, before too long, I hope to get back into Fort Vermilion District and visit some of the more outlying parts of the area.

"Seems My Work is Never Done"... Yet...



"You're the best cook in this town!" says Clarence Ramsey to wife Juanita. Mrs. Ramsey loves the flattery! Joyce, Beth and little Edwin grin happily as Mom and Dad hold hands. "Three wonderful kids, a farm of our own, a husband I'm crazy about," says Mrs. Ramsey. "Is it any wonder I'm so happy?"

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Yummy! Beth and Joyce know that ham's going to be delicious when Mommy finishes. "Hard on my hands?" says Mrs. Ramsey. "I keep a bottle of Jergens Lotion in the kitchen, use it a dozen times a day!"



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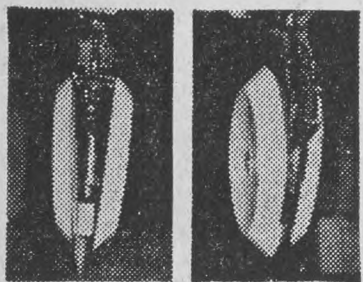
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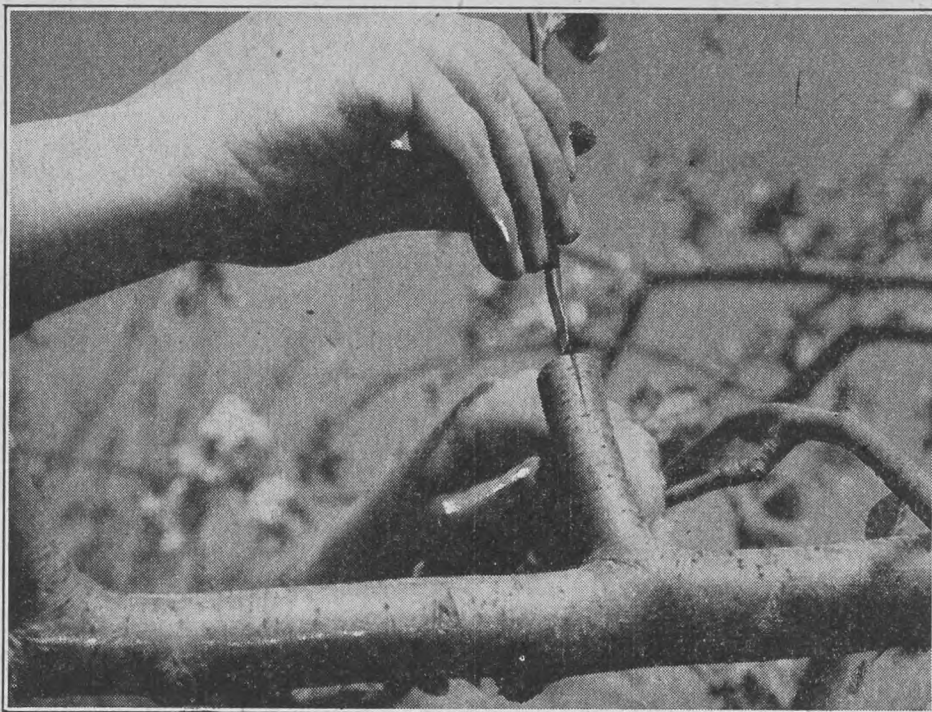
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HORTICULTURE



[Photo: Nat. Film Board]

Working over trees to better varieties by cleft grafting is not difficult. Here the cion is being inserted into the cleft branch, so that the thin, green cambium or growing layer on each will meet.

Pioneer In The Parkland

John Dennis has been growing fruit in Saskatchewan since 1907, and has tested 176 varieties of tree fruits.

by D. R. ROBINSON

OF THE many fine farm orchards located in eastern Saskatchewan there are few that will compare with the one established by John Dennis, Buchanan, Sask. Last July, in company with D. Hluchaniuk, Agricultural Representative for the Canora district, I had the pleasure of inspecting this orchard and a most enjoyable afternoon was spent checking over the tree fruits and discussing varieties with Mr. Dennis.

A pioneer in more ways than one, Mr. Dennis planted his first fruit trees, Siberian crabapples, in 1907. A few years later he obtained the Osman crab from Ottawa and grafted it onto the Siberian crab stock. One of the original Osmans, now 34 or 35 years old, is still growing vigorously and producing its share of fruit. During the past 40 years Mr. Dennis has tested more than 100 varieties of crabapples and apples, 55 varieties of plums and 21 varieties of plum sand-cherry hybrids and cherries. Many of the trees planted in the earlier years have been discarded for one reason or another, but more than 50 varieties are included in the present orchard.

Mr. Dennis' orchard is located in township 33, range 6 W. of the 2nd meridian, in the deep park belt. Climatic conditions in this section of the province offer a rather severe test for tree fruits, and varieties which are relatively hardy in this district should do well in many parts of Saskatchewan. It is true that moisture supplies are usually more abundant here than on the prairie, but on the other hand winter cold snaps are often a bit colder and last a bit longer in this section than in districts to the south and west. It is a well-known fact that the isotherms of average temperature run in a south-easterly to north-westerly direction in this province. In addition the cool frost-free period in the autumn, or the season of light frosts is usually of shorter duration in the deep park belt than it is on the open plains. This means that less time is available here for woody plants to

attain full dormancy before winter sets in. The Dennis orchard is protected by a very modest shelterbelt of white spruce, ash and elm, and the low elevation on which it is located does not provide much opportunity for air drainage. Varieties of crabapples that are doing well here and which carried a good crop of fruit in 1948 are as follows: Amur, Bedford, Calros, Osman, Renown and Silvia. Of particular interest was the performance of several of the larger crabapples, or apple-crabs, growing side by side in this orchard. Sixteen-year-old trees of Piotosh, Printosh, Rosilda, Trail and Jewel x Rideau were present and ranged in height from four to six feet. They were quite bushy and carried some fruit close to the ground, but had killed back severely on several occasions. Alongside these trees were three of Rescue, ten years of age, 11 feet in height and carrying a good crop of fruit. Reports on the above-mentioned varieties as to their resistance to fireblight vary somewhat, but until such time as resistant kinds are available, and for isolated farm orchards in this section of the province, Rescue appears to be more suitable than many of the other large-fruited crabapples.

SOME other fruit trees in Mr. Dennis' orchard are worthy of mention. Heyer No. 12 apple, while less vigorous than the crabapples, carried considerable fruit. Rosthern No. 5 was ten feet in height and appeared quite hardy. It was described as being larger than Osman and of good quality. Five seedlings originated by Mr. Dennis attracted our attention. One of these was a seedling of Heyer No. 12. Another, a seedling of Florence, was considerably larger than the mother parent. Mr. Dennis rated it very good for canning and a good keeper. A seedling of Bedford appeared to possess remarkable keeping qualities. Fruit picked in September of the year previous was somewhat shrunken, but still edible on July 20,

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1948. These seedlings and three or four others should be widely tested for hardiness, fireblight resistance and other qualities. Several named varieties of plums were fruiting abundantly and of these Bounty and McRobert were two of the best.

A number of good varieties of plums, crabapples and other tree fruits are now available for the southern districts of Saskatchewan. The choice of varieties for the northern districts is more limited and we must not overlook the fact that the frontier is steadily being pushed farther north. Every opportunity should be made use of to test fruit seedlings originated in the west, for their suitability to the northern and north-western areas of settlement.

(EDITOR'S NOTE: Mr. Robinson is extension specialist in Horticulture at the University of Saskatchewan, Saskatoon.)

Framework Grafting

A recent report from the Dominion Experimental Station at Saanichton, B.C., records success with framework grafting, which was first done at the station in 1939. A representative of The Country Guide visited the Saanichton Station in 1942 when this work was expanded, and when eight mature Boussock pear trees were top-worked in the usual manner and eight similar trees grafted in frameworking. It is reported now that the first season after grafting, August, 1943, the top-worked trees produced 89 pounds of fruit and the frameworked trees 1,129 pounds of marketable pears. In the sixth cropping season since the grafting was done, the top-worked trees have yielded fruit totalling 4,190 pounds and the frameworked trees 8,504 pounds.

This difference in yield is due to the amount of bearing wood developed under each method. The same report points out, however, that apple trees grafted by the same method in 1945 are showing a less marked difference in favor of frameworking, so much so that the value of frameworking apple trees is considered doubtful.

First Rule For Raspberries

ON the average farm, about ten times the necessary number of raspberry canes are generally allowed to grow, and it is then no wonder that the fruit crop is reduced. A given piece of land can hardly be expected to grow both a forest of canes and a bumper crop of fruit. This is most true of the drier areas, like the prairies and the irrigated parts of B.C., but in the remainder of the country, where fertility is usually a greater problem than it is in the dry parts, it is also true.

The first rule of raspberry culture is to maintain a thin stand of plants. If the raspberry plantation is allowed to become a continuous mat of growth, the raspberry plants will not thrive enough to be able to keep down the weeds. However, if the rows are kept narrow enough (not over eighteen inches at most), they will make such a dense growth that the amount of hand weeding required will be reduced to a minimum. In addition, fruit picking is much easier, because the fruit is more available to the pickers, and fewer plants are tramped down as one passes from plant to plant. Also, if the canes have to be laid down for winter, as they do in

the severer parts of Canada, the job becomes an almost impossible one if the stand of plants is continuous. If the stand is to be left so thick, one is limited to the few and inferior varieties which will endure the winters without being laid down. Last but not least, spraying for insect and disease control, and roguing out of mosaic-infested and other diseased plants, becomes much easier when the number of plants in a given area is limited and the lanes between rows completely maintained.

The same arguments apply even more to the hill system of raspberry culture. If the canes are originally planted on the square, and cultivation is given both ways, the number of plants per square yard of ground is still more easily limited to that which the land is able to support. Undoubtedly the home growers of raspberries throughout all parts of Canada lose thousands of dollars worth of fruit yearly by failing to understand that more canes does not mean more berries. In fact, it means fewer berries and more labor.

The arguments for maintaining a thin stand of raspberry plants are so complete that it is difficult to believe that anyone needs to have them pointed out.—Percy H. Wright, Sask.

Lilacs For Ornament

PROBABLY more improvement in the quality and variety of lilacs has occurred as a result of plant breeding than in any other type of ornamental shrub. Hundreds of varieties are available, although, of course, not all of these are suitable for any individual district.

Lilac plants should be grown on their own roots, because when grafted on common stocks the production of suckers is very pronounced and amounts to a nuisance. Sometimes, too, if the stocks are neglected they outgrow the named variety.

Lilacs are hearty feeders and for this reason all surplus and weak stems should be removed and the plant given a good top dressing of barnyard manure. They do not do well in the shade of trees, or when planted too deeply. It may take several years for a plant to die from this cause, but many deaths do occur. The lower bark of the trunk becomes soft and spongy, gradually decays and the upward flow of sap to the top of the plant cannot take place. The best depth is about two inches or less above the collar, or point where the stem joins the root.

As soon as the flowers have faded each year, the flower stocks should be clipped off, so that the plant will not expend its energy in seed production. At the same time, or shortly after, two or three of the oldest stems should be cut off at ground level and a similar number of strong young shoots allowed to grow up and take their places.

There are many available choices of lilac varieties, but authorities at the Morden Experimental Station list the following as a good combination involving 12 outstanding varieties: Single White—Ventale; Double White, —Edith Cavell and Helen Willmott; Single Pink — Lucie Baltet; Double Pink — Mme. Antoine Buchner and Montaigne; Double pink to lilac—Leon Gambetta; Double Mauve — Victor Lemoine; Reddish Double—Paul Thirion and President Loubet; Double Blue—Emile Gentil; Single Purple—Ludwig Spaeth.



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The Tangle O' The Isles

The western islands of Scotland have experienced boom and collapse of an industry which competed for their natural farm fertilizer.

by RODERICK WILKINSON

THE "tangle" is the seaweed which is thrown on to the shores of the stormy western coasts of Scotland after the autumn or winter gales.

For centuries the crofters in the Western Isles have gathered the tangle as a winter occupation, using it as a fertilizer on their land or, dried, as cattle fodder. Now, there is a more lucrative outlet for seaweed—the processing factories, of which there are a few set up on the islands and on the mainland. The attitude of the crofter towards the seaweed industry differs from island to island. Some gather the tangle willingly; one crofter on South Uist made £200 in three months last winter. Others will have little to do with modern ways and modern industry and they refuse to employ their spare time by collection. The Scottish Seaweed Research Association and private companies are making every attempt to encourage the gathering of tangle—until mechanical means of seaweed harvesting are possible, at least.

There was a time before when a great Scottish seaweed industry was born, lived in richness and died in poverty—the kelp burning. Even yet, some of the older Highland crofters can remember the burning kelp pits which smouldered for a fortnight at a time, and the flat, blue haze which lay above the shore like a still lake of vapor. And the smell—the salty, sweet scent that drifted from the beach.

The earliest record of kelp is of an Englishman who approached the town council of Anstruther and offered the gentlemen the sum of £4 if they would allow him to collect seaweed from the foreshores and burn it to make seaweed ash—kelp.

Nothing more is learned about kelp until 1720 when a Mr. Meldrum travelled from Fraserburgh to Orkney Islands to show these islanders the industry of kelp-burning.

From that date begins the remarkable career of the industry which has been recorded as one of the most exciting yet tragic episodes in Scotland's social history.

Glass-makers and soap-makers, who hitherto bought Spanish barilla for its high potash and soda content, found their supplies cut off. Another source

of the chemicals was known to be kelp and the demand for burned seaweed increased enormously. Prices rose. In 1740 it was £8 a ton. Month by month this rose to £10 then £15 till it reached £20 a ton. Landlords were making huge profits.

More and more people employed themselves in kelp-burning, even migrating from cities like Glasgow and Edinburgh to join the Highlanders in their glowing trade. Landlords made it a condition of tenancy that their tenants burned kelp. By the end of the eighteenth century a hundred thousand men, women and children were relying for their livelihood on the hard, grey seaweed ash which yielded the precious chemicals.

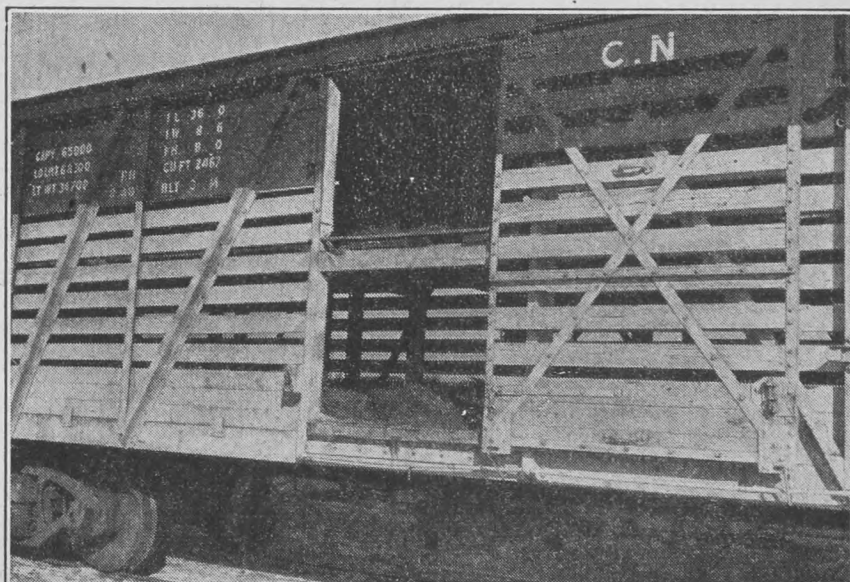
Naturally, the land in the coastal districts and on the Islands suffered. It was denied two essentials—its natural fertilizer, seaweed and labor.

Rents rose. Prices of certain commodities went up. Economically, Scotland was in the poorest possible position to withstand the inevitable slump which followed. Spanish barilla came back on the market again and, almost immediately, kelp prices began to come down . . . £17 . . . £10 . . . £2 a ton. Hundreds of small firms were ruined and thousands of kelp workers faced starvation. They could not pay their rents and by the beginning of the nineteenth century another mass exodus to America had begun.

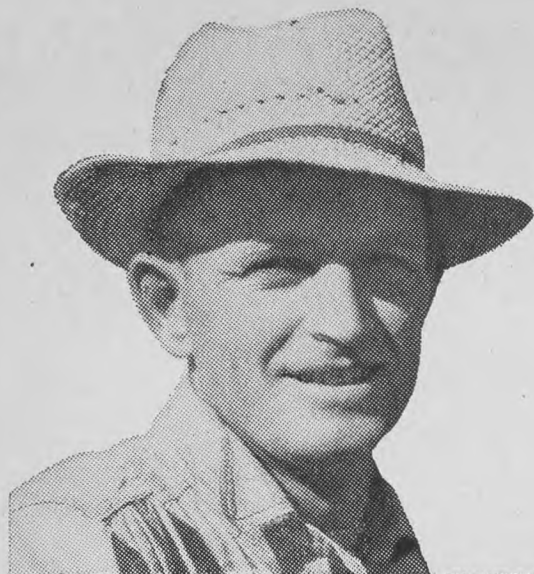
With the discovery of iodine by a Frenchman, M. Bortois, the kelp trade partially resumed its activities for a time. In fact, prices showed signs of reaching favorable heights. But in spite of this brief injection, the industry was doomed. It was discovered that iodine could be extracted cheaper from Chilean nitrate and kelp collapsed immediately.

A great Highland industry had died.

From the death of the industry until the beginning of the recent war, the tangle on the shore was, to the crofter, something that he alone could use. Even then there was often too much for his modest acreage or his humble byre. Now, with the demand for alginic acid, agar-agar and other chemicals, the tangle has another meaning to the Scottish Highlander.



A completely double-decked car. Often a deck is built in only half the car for mixed loads. (See pages 15 and 68).

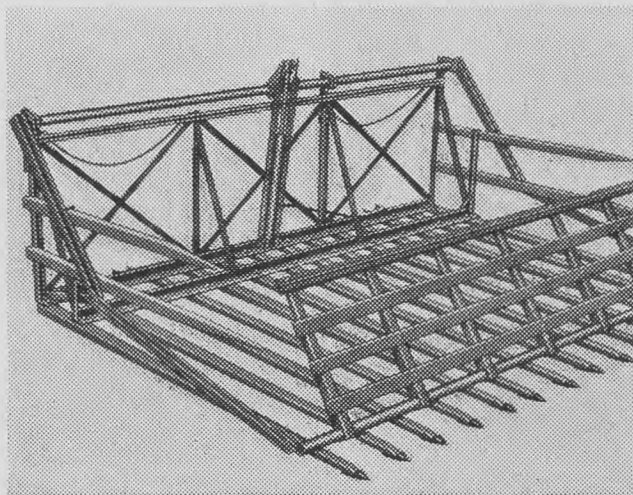


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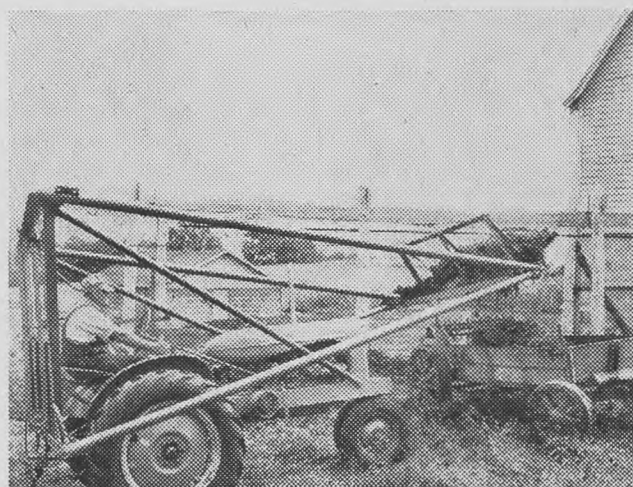
HYDRAULIC CONTROLLED! The Push-off fits on the hay basket easily ... operates from its own control valve through the same hydraulic pressure system as your FARMHAND Loader. Pushes loads off ends of basket times to center of the stack. Light aluminum construction. Folds flat ... doesn't cut down basket capacity.



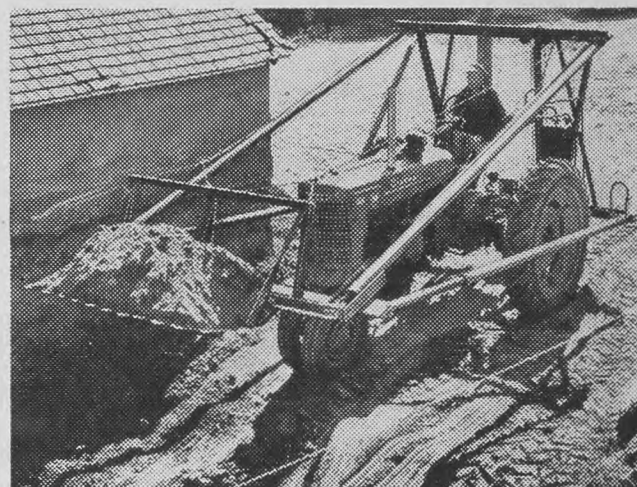
SAVES ME \$3.50 A TON in haying. My FARMHAND Loader with hay basket sweeps up windrows at speeds to 15 m.p.h. ... takes a half-ton at a time ... clears from 15 to 20 acres a day with no waste of time or labor. If you put up 20 tons or more of hay each year, as I do, you can't afford to be without a FARMHAND Loader!



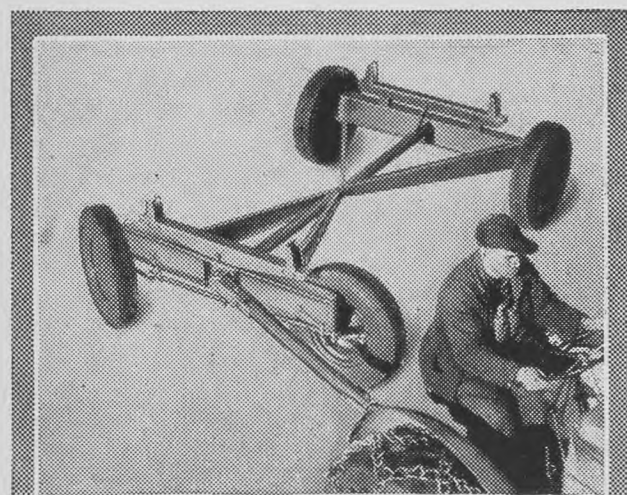
STACKS 5 TO 6 TONS PER HOUR ... with no extra hired help needed! My FARMHAND Loader with Push-off makes haying practically a one-man operation. 27-foot reach (including Push-off) puts the hay where I want it. 3,000 lb. lift speeds the job. "Wrist Action" hydraulic control deposits loads gently, evenly, where I want them.



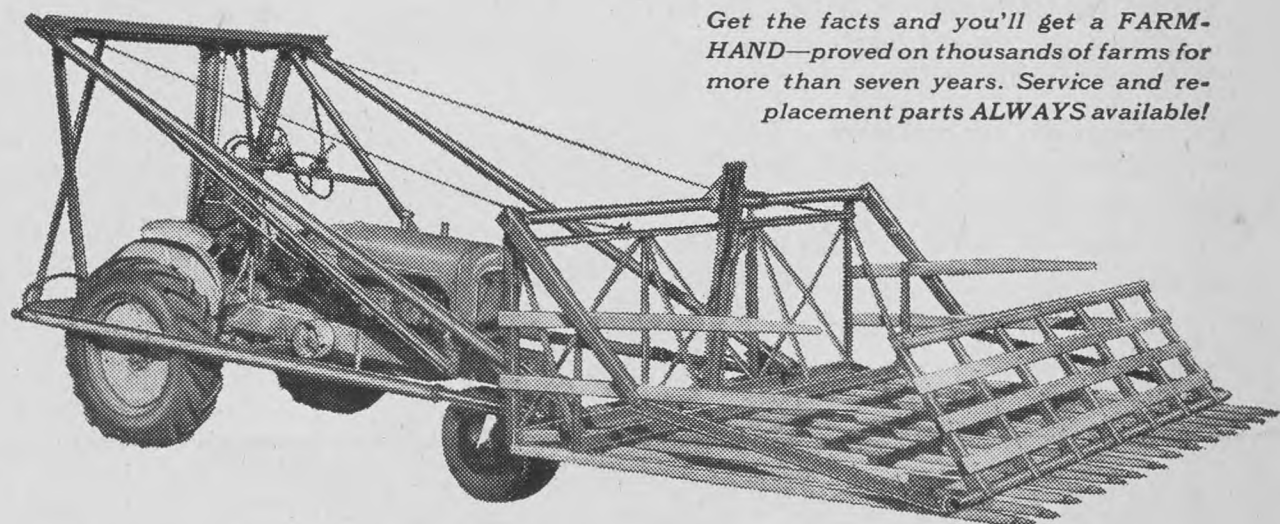
LOADS SPREADERS IN 3 MINUTES! Another big job I do quickly with my FARMHAND Loader. You'll never guess how handy and versatile this amazing loader can be until you see it in action on your own farm. It lifts and carries almost anything ... hoists it higher ... unloads it better than a crew of men.



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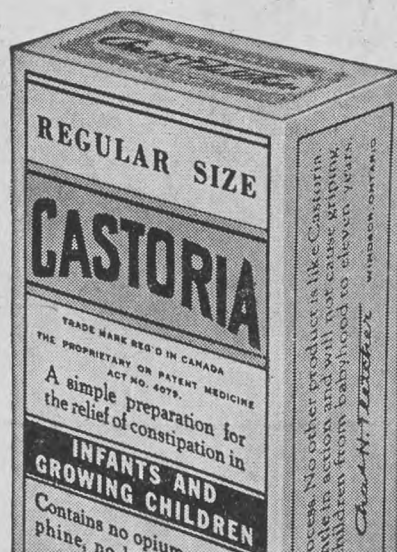
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MONTHLY

The International Wheat Agreement

It must be admitted that the new international wheat agreement drafted at Washington is disappointing in several respects. It falls short of what had been hoped for it and, from the standpoint of exporters, it is not as good an agreement as that of 1948 which failed only because the Congress of the United States failed to ratify it. On the other hand, in view of the difficulties which faced negotiators at Washington, they accomplished a good deal in arriving at any agreement. Hopes will be entertained that in future years the present document can be expanded into something both more satisfactory and more comprehensive.

For the moment expressions either of satisfaction or of disappointment are somewhat premature, for the agreement still has to be ratified. Almost certainly it will be ratified by Canada and by most of the importing countries. It may meet with difficulties when it comes before the U.S. Congress and possibly also in Australia where it has been subject to criticism.

Quantity. The agreement covers annual exports of 454,446,203 bushels against 500 million bushels included in last year's agreement. Of this quantity 202½ million bushels annually are assigned to Canada, as against 230 million bushels in the former agreement. Australia's share was cut from 85 to 80 million bushels and that of the United States from 185 to 167½ million bushels. For the three exporters parties to last year's agreement, this meant a total reduction of 50 million bushels. That took care of the reduction of 45½ million bushels in the total quantity, and permits France to export three million bushels and Uruguay 1½ millions under the agreement.

Duration. Like last year's agreement, the new one is to terminate with the crop year 1952-53. As it is to commence a year later, on August 1, 1949, it runs for only four years instead of the former five years, although exporting countries made efforts, which proved unsuccessful, to have it extended for another year.

Maximum Price. The maximum price for quantities set by the agreement is set at \$1.80 per bushel instead of the former level of \$2.00 per bushel. Exporting countries made strenuous but unavailing efforts to have the former maximum retained, but importing countries, under the leadership of Great Britain, insisted strongly on the reduction. If, as the importing countries appeared to believe, world wheat prices in any event were due to decline, this lowering of the maximum would be comparatively unimportant.

Minimum Prices. Exporting countries gained their single advantage in this respect, by an increase of 10 cents per bushel in the schedule for minimum prices. These begin at \$1.50 per bushel for 1949-50 and decrease annually by 10 cents per bushel to \$1.20 in 1952-53.

Argentina. As happened a year ago, Argentina joined in the discussions for a while and then announced withdrawal. This means that Argentina will have to find its wheat markets in

countries which did not sign the agreement, or in signatory countries after they have filled their obligations to purchase quantities stipulated in the agreement.

Russia. The great surprise of the Washington negotiations was provided by Russia which, instead of remaining aloof, as she did a year ago, remained a negotiating country until the very last. At first she claimed a right to provide 20 per cent of the total quantity to be covered by the agreement, stating a willingness to provide 100 million bushels annually. The Russian claim was later reduced to 75 million bushels but other countries would concede only 50 million bushels to her, so Russia finally withdrew. The fact, however, that the total quantity covered by the agreement was reduced by 50 million bushels seems to have been due to a desire to leave that room for possible Russian export. Russia's claim to be able to spare such a quantity came as something of a shock to other exporting countries, which had not envisaged Russian ability to become again a large-scale exporter of wheat. Until 1914 Russia had been one of the world's large wheat exporters, but it had been supposed that the growth of population would absorb all the wheat which Russia could produce in the future.

France. Another shock to the negotiators at Washington was provided by France's claim to a share in the export market. France has traditionally been an importer of wheat, although imports have been highly variable, and a year ago had been willing to commit herself to annual import of nearly 36 million bushels for a five-year period.

Effect on Canada-U.K. Contract. It is officially declared that the new agreement will have no adverse effect with respect to the contract between Canada and the United Kingdom which will still be bound to pay Canada on the basis of \$2.00 per bushel for 140 million bushels of wheat to be provided in 1949-50, although Canada will be selling to other countries at not more than \$1.80 per bushel. There may, however, be an indirect effect in extinguishing any claim which Canada otherwise might have had for compensation in respect to the early years of the U.K. contract. If Great Britain next year pays an extra 20 cents per bushel to Canada, or a total of \$28,000,000, she may regard that as complete settlement of any Canadian claims in respect of former years. That question may not be very important because it was already apparent that both Canada's ability to claim, and Britain's ability to pay, anything further in respect to those earlier years were highly doubtful.

Advance In Initial Price For Wheat

By this time, probably everyone in western Canada knows that the basic initial Wheat Board price for wheat was advanced to \$1.75 per bushel on April 1, 1949. Also, probably almost everyone knows that an additional 20 cents per bushel is now to be paid out on all wheat deliveries from August 1, 1945 to March 31, 1949. The total amount thus to be paid will be well over \$200,000,000.

COMMENTARY

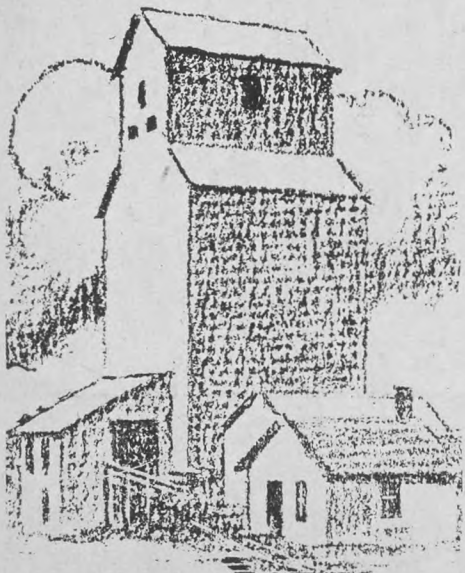
Some of that money will be paid out at once by the Wheat Board on the basis of Producers' Certificates now in their hands covering deliveries up to March 31, 1948. Those Certificates were called in by the Board in order to make a previous payment at the rate of 20 cents per bushel.

Certificates covering deliveries since March 31, 1948, up to March 31, 1949, should now be sent in to The Canadian Wheat Board, accompanied by requisition forms which can be obtained from any elevator agent.

Moreover, producers will do well to make sure that all previous certificates obtained by them are forwarded to the Wheat Board if that has not already been done. The Board is still holding \$755,829, due to producers in respect to the crop of 1943 and \$1,255,761 due in respect to the crop of 1944. Another large amount of money, undoubtedly amounting to \$7,000,000, is still held by the Board in respect to certificates issued between August 1, 1945, and March 31, 1948. There is a grave danger of serious loss if producers do not now take steps to claim the money due them, which the Wheat Board is now ready and anxious to pay out. It should not be forgotten that when the accounts of the 1919 Wheat Board were wound up there remained on hand many millions of dollars which that Board had not been able to pay out because it could not locate producers to whom the money was due. In order to get rid of such funds the Dominion Government finally paid the residue over to the provincial governments of Manitoba, Saskatchewan and Alberta, which used them to set up trust funds for various purposes. Probably no one now holding Wheat Board certificates, issued prior to April 1 this year, wants to contemplate the money due him being so used.

Continued Floor Prices For Oats And Barley

On behalf of the government, the Minister of Trade and Commerce, Rt. Hon. C. D. Howe, has announced that for the coming crop year the prevailing support prices for oats and barley will be continued. These are on the basis of 61½ cents per bushel for No. 1 Feed Oats and 90 cents per bushel for No. 1 Feed Barley in store lakehead terminals. This guarantee applies only to such grain produced in the prairie provinces and there is no corresponding provision for feed grain grown in British Columbia or in eastern Canada.



Guaranteed minimum prices for oats and barley have been in effect since 1942-43 when they began at 45 cents per bushel for oats and 60 cents per bushel for barley. The method of administration has been to authorize The Canadian Wheat Board to buy grain outright whenever offered at minimum prices. Except for a very brief period, it has never been necessary for the government to make good its guarantees. That occurred early in 1942 when, for a few weeks, The Canadian Wheat Board found it necessary to buy certain limited quantities of both oats and barley; however, the market soon advanced to the ceiling levels which at that time were 51½ cents per bushel for oats and 64½ cents per bushel for barley. The market remained at those ceilings until March 17, 1947, when the ceilings were advanced to 65 cents per bushel for oats and 93 cents per bushel for barley, and the floor prices to 61½ cents per bushel for oats and 90 cents for barley. In the meantime returns to farmers had been increased by advance payments on Equalization Feed Fund account of 10 cents per bushel on oats and 15 cents per bushel on barley.

Ceilings on prices for oats and barley were removed on October 21, 1947. The guaranteed floor prices remained the same but the market has since been well above these floors and there has been no occasion for The Canadian Wheat Board to do any support buying.

Indeed, there has been a tendency to forget that floor prices were in effect, although these probably had some effect in sustaining coarse grain acreage for several years.

Floor prices for oats and barley began to be much more important during the past few months, when market prices in Canada declined in sympathy with declines in the United States, induced by the very large crops produced in that country in 1948. It was evident that there was danger of some further fall during the coming crop year if North American production of feed grains should again be large. On that account farmers might have hesitated to seed the usual acreages to oats and barley without some assurance of returns to be received. That was particularly the case after announcement that the initial price basis for wheat was to be advanced to \$1.75 per bushel. Quite evidently the government had these facts in mind when it announced, well before seeding, that the prevailing floor prices would be continued for another year. That announcement has been highly gratifying throughout western Canada.

The floor prices may well have important effects, even although market prices remain sufficiently high so that the government does not have to make good its guarantee by buying through The Canadian Wheat Board. They will probably play a part in maintaining seeded acreage. In addition, they may well have an effect in strengthening the market since both producers and buyers will know that prices cannot drop below a certain level.



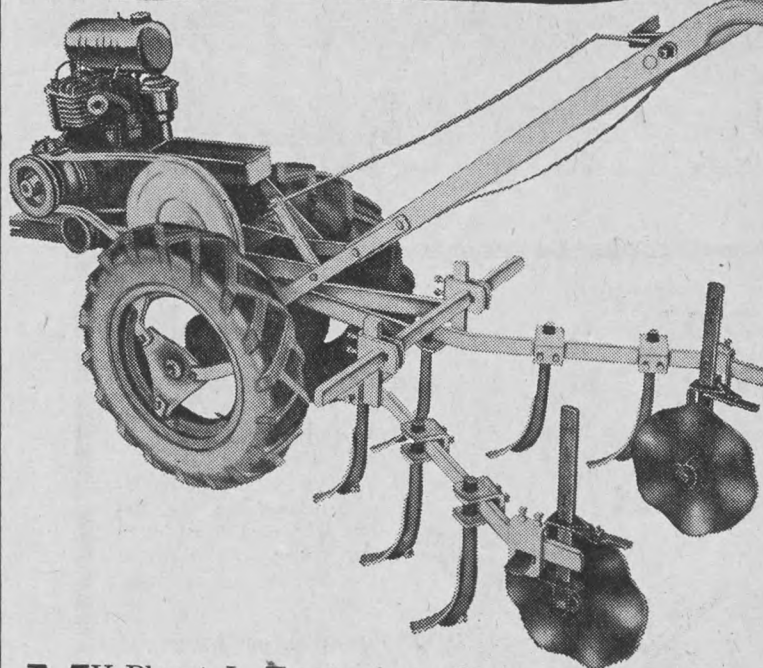
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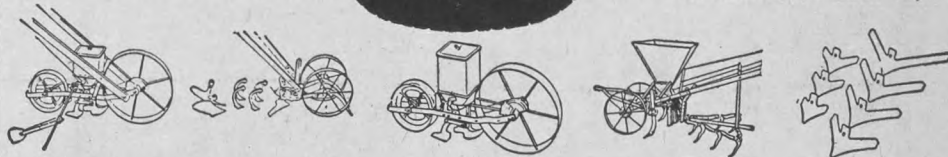
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New Salem

Continued from page 12

How had the faith of the first quarter century withstood the test?

The school men at Fargo warned me that I might be disappointed if I enquired too closely. All over North Dakota there had been a war-time reduction of herds, due to labor shortage and the relatively higher price of grain crops. A new generation framed farm policy, a generation which, perhaps, knew not Joseph. Why disinter an old tradition whose lustre might now be somewhat tarnished? Dr. Walster and his colleagues gave no encouragement, but nevertheless I revisited New Salem to see if its people now worshiped false economic gods.

AT Mandan, the county agent, Ralph Newcomer, testified that the Dakota cattlemen, no less than the grain growers had taken a licking during the depression. Commercial milk cattle sold for \$20 a head. The fine purebreds, product of the New Salem breeding centre, had sold for as low as \$50 apiece. Sure, the general tendency today was for farmers to keep fewer cattle, but he believed that 82-cent butterfat had kept a lot of the local farmers equipped for dairying in the business. Lack of labor had forced some switch from dairy cattle to beef, but on the whole he thought that numbers had not lessened by much.

Newcomer did not complain about a decline in livestock keeping. His particular gripe was that at present high butter prices any old cow was profitable and that farmers had not continued to weed out the poorer ones with their aforetime assiduity.

Here is the evidence of L. H. Hein, who can observe a lot from his vantage point as manager of the creamery, now the oldest continuously run plant in the state. It has an annual capacity of 300,000 pounds of butter. At no time during the depression did the annual make drop below 200,000 pounds. There were times when the local farmers had to turn their cows into the grain crop to keep up the

milk flow. At other times they had to resort to slough hay cut on the ice at \$30 a ton. But they had been all through that before and did not hesitate. With neighboring counties grain mad, New Salem made 250,000 pounds of butter last year, and this year it will be closer to capacity. The creamery is too small for the potential business. There is talk of a new and bigger structure.

In the golden summer evening I rounded up John Christianson and two of his old associates—the same John Christianson whose encounter with the Sioux brave is commemorated on the monument, an old man now, but possessed of all his faculties. Perhaps one shouldn't take the evidence of men as old as Christianson on current trends because they live too much in the past. John was too much a maker of tradition to break with it now. He might be seeing through opaque spectacles.

So perhaps one should pay more attention to the other men who talked through the twilight that summer evening. To Peter Buman, for instance. For Buman once held down a three-legged milk stool, and now holds down the president's chair in the local bank. He allows that the drought of the '30's was worse than that of the '80's and it was the cattle again that helped them pull through. With the present level of farm costs, he says, grain farmers cannot live through more than two years of crop failure. Livestock farmers can outlast them. Even in the semi-arid country, Buman says.

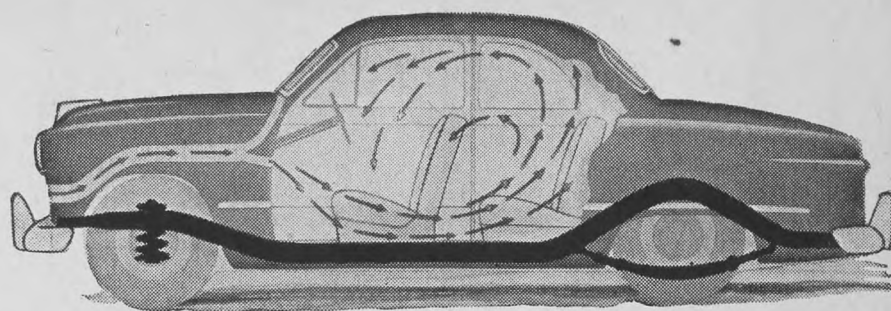
The publicity which New Salem got in the '20's brought a lot of farmers there on what might be called an enquirer's pilgrimage. People wanted to see the workings of a village where farm bank balances totalled a million dollars, says F. H. Elwein, manager of the bank. At the depth of the depression those balances shrank to \$300,000. There were some farm replacements. Mr. Elwein says it was the grain farmers who went and the dairymen who stayed. Today farmers' deposits have risen again to 2½ million dollars. Should grain prices drop relatively there may be some more pilgrimages. New Salem is ready to make a re-affirmation of its old faith.



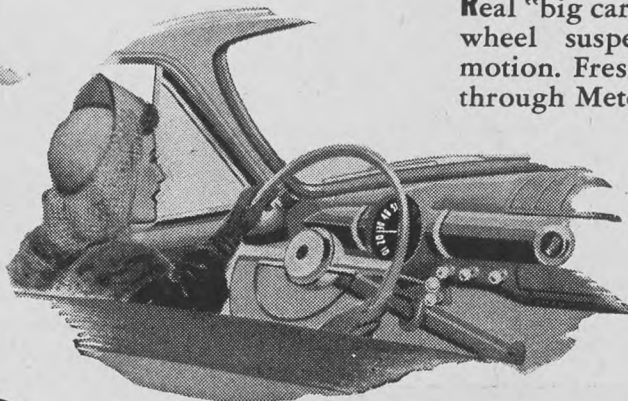
"I couldn't get a tree surgeon, so I called in a chiropractor!"



It's amazing how much room there is in Meteor's huge luggage compartment. (For example, 19 cu. ft. in the Four Door model.)



Real "big car" riding luxury. Individual front wheel suspension. Smooth, vibrationless motion. Fresh air can be circulated at will through Meteor's built-in ventilation system.



In the way it rides, responds and performs, Meteor is certainly the pick of the '49 cars. You steer with your fingertip. Slight pressure on the brake pedal brings this car to a soft, sure stop. Extra large glass area gives "observation car" visibility.

Meteor...the Pick of the New Cars

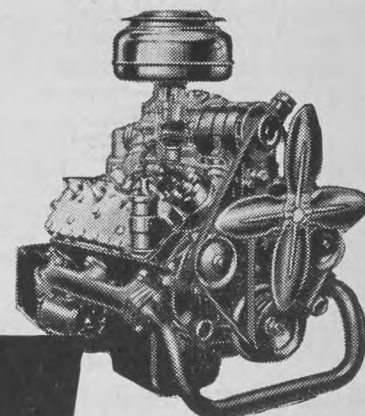
with months and miles
behind it!

Meteor's "big car" beauty thrills owners. And it is surprisingly roomy. Wide, luxurious seats. Wide doors. Plenty of head and leg room.



White sidewall tires optional at extra cost.

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Plant Galls

Every barefoot farm boy has seen them.

by PAUL HADLEY

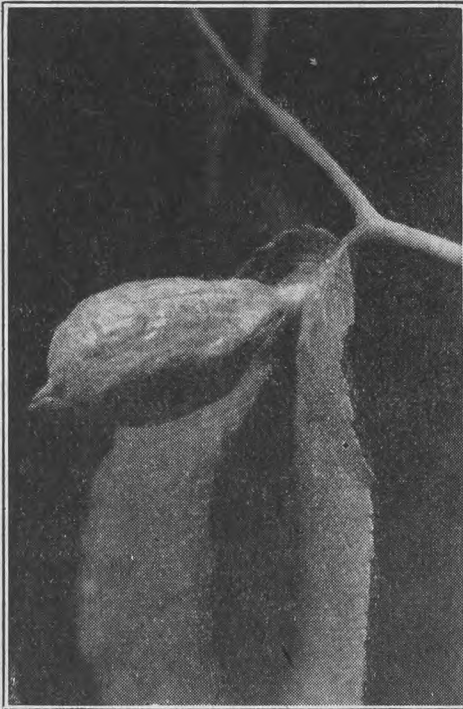
THE formation of those odd growths known as "galls" upon stems or leaves of certain plants and trees is the most unusual result of insect infestation. The growth of a gall is always the result of the sting and simultaneous deposit of an egg within the tissues of the plant by one of the "gall-producing insects," of which there are many species.

Each different kind of gall insect will produce exactly the same kind of growth upon the twig or leaf; while another type of insect will cause an entirely different type of gall, even upon the same species of tree or plant. For instance, there are many types of gall-producing insects which favor the oak trees as hosts in which to lay their eggs. One of these is very common, and one will find many of these

a standard photographic developer, but now has been largely superseded by other and cheaper chemicals.

Why it is that the sting of the insect always produces these unusual growths is not known. Undoubtedly, it is the result of some chemical reaction. Whether this irritating chemical is deposited by the adult insect at the time of deposit of the egg, or is produced by the young and growing insect itself, is not understood. That there are complex chemical compounds at work cannot be doubted, and that these chemicals are different in the various species of insects also is certain.

That the gall itself is entirely of vegetable substance is sure; the adult insect takes no further interest in her prospective child after the egg is laid; and the young grub has no way of influencing the growth of his home, which actually grows from the sub-

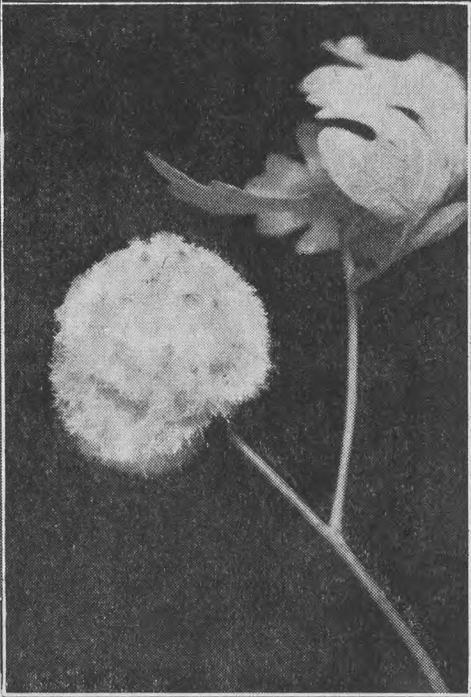


A woody gall on an elm leaf.

smooth, spherical galls upon the leaves of the oaks during a short walk through the woods.

On the oaks also one will occasionally find a very unusual and beautiful gall. This is known as the "woolly oak gall," and resembles a small ball of tightly packed white wool or cotton. Often the white outside of this gall will be tinged with light pink. Upon cutting one of these growths open, it will be found to be of entirely different structure than the smooth oak gall. Woody galls are also found upon oak trees, also insect produced, and these may be as hard and durable as the oak wood itself.

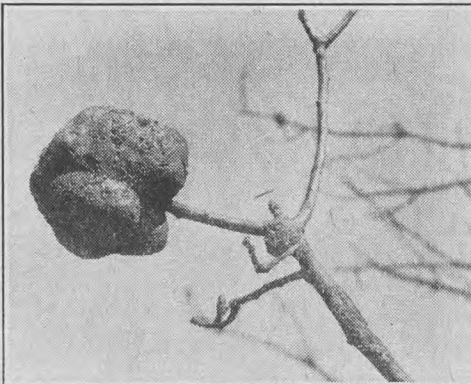
A gall useful to commerce is the Chinese oak gall, great numbers of which are imported from China, and from which the chemical, pyrogallol acid is made. This chemical was once



A woolly gall on an oak twig.

stance of the twig or leaf. The materials in a leafy gall is all leaf cells, while the woody galls are all produced from wood cells.

Yet each type follows a certain, well defined pattern from which it does not vary except in small matters of size and slight variations in shape. Galls may vary in size from that of a grain of wheat to that of an orange. Some weeds are so prone to be visited by the gall-producing insects that one will seldom find an individual without this enlargement of stem. Occasionally one will find one tree upon which there may be thousands of woody galls, while nearby trees of the same species will have few or none.



Left: woody oak gall. Right: gall on a wild cherry.

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The Grizzly Guard

Two bears helped Thompson to discover the Columbia River.

by KERRY WOOD

It all started at the historic fort of Rocky Mountain House, now a lumber town in Central Alberta. Rocky was the first fur-trading fort to be established in the vast Canadian wilds west of Fort Garry, the present city of Winnipeg. It was there that he learned about a new pass through the mountains and about a mighty river that emptied into the western ocean, which he resolved to explore.

However, the Stoney Indians living west of the Rocky Mountain House trading post were very much against Thompson embarking on this exploration trip. They valued the presence of the trading post at Rocky, and were afraid that Thompson might find a better location on his travels and move the store from their territory.

Anyway, the Stoneys were very hostile towards Thompson's plan and said so. In pretended agreement with their wishes, Thompson launched his canoes downstream on the North Saskatchewan River that flows eastward away from the mountains, hoping by this ruse to fool the Stoneys into thinking that he'd given up his idea of exploring across the mountains. But the suspicious Stoneys were not so easily misled, and sent a strong war-party to follow the white man. Realizing that he was being pursued, Thompson cached his canoes and set out across country, going south and westward. When the Stoneys found his canoes and realized that the explorer was heading towards the mountain pass, they became incensed over his trickery and resolved to catch him and kill him.

But two grizzly bears chanced upon the trail left by Thompson's party, and out of curiosity the giant bears followed the explorer's path for some distance. When the pursuing Stoneys saw these grizzly tracks super-imposed on Thompson's trail mile after mile, they halted for a council of war. The bow-armed Stoneys of that time had an exceedingly healthy respect for the giant mountain bears, subscribing to many superstitions about the spectacularly powerful animals. It wasn't too difficult for those aboriginal Stoneys to believe that the astute David Thompson had called upon supernatural aid to protect him from harm, and that these two grizzlies were the formidable guards appointed to the task. So the Stoneys turned back, while Thompson went on to penetrate the Rockies, discover the Columbia River, and eventually reach the Pacific Ocean.

On his return journey through the mountains, Thompson learned from his scouts that the Stoneys, still angry enough to stage a scalping party, were reduced to smoking bark. The shrewd Thompson, knowing his Indians, sent an advance courier ahead with a generous gift of hard-twist. He knew that if the Stoneys accepted this present, by their own strict code it cemented friendship between themselves and Thompson once again. The smoke-starved Stoneys deliberated only a short time before gratefully accepting the tobacco, thus permitting David Thompson to travel safely through their territory and reach the fort at Rocky Mountain House.

Farm Service Facts

PRESENTED BY.....



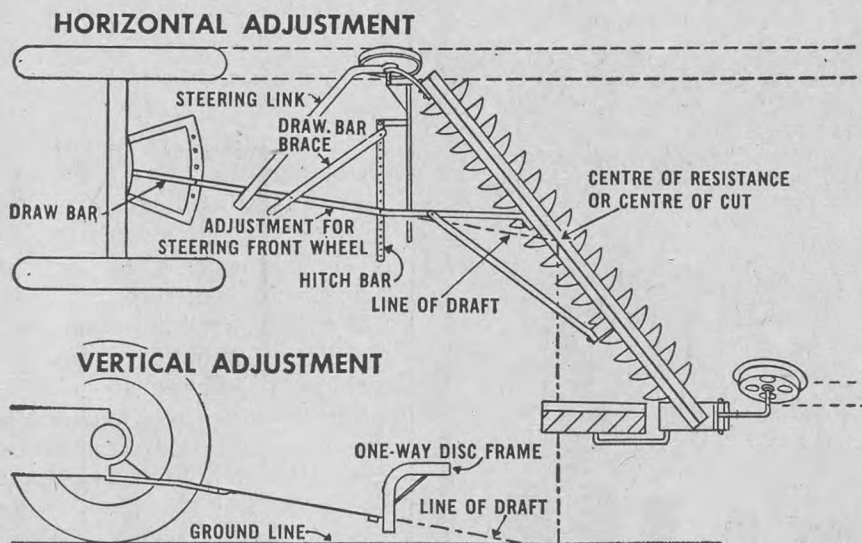
IMPERIAL OIL LIMITED

EXCESSIVE TIRE SLIPPAGE COSTLY IN FUEL

Needless fuel consumption and tire wear result if there is excessive slippage of tractor tires. Correct hitch of tillage implements will ensure increased weight on the rear tractor wheels with increased implement draft, thus improving the traction in heavy going.

The one-way drawbar should reasonably follow this line.

The vertical hitch on the tractor is as high as is practical without loading the sliding drawbar too heavily or affecting the steering of the tractor. The vertical hitch on the implement



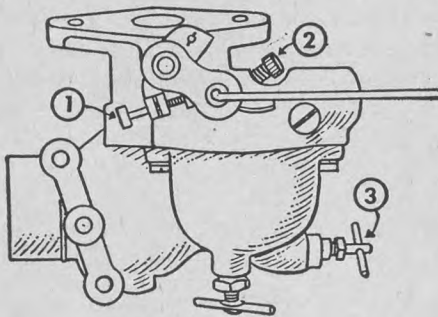
For example, the one-way disc, illustrated here, is drawn from the centre of cut (between the two centre discs or from the centre disc). The horizontal hitch adjustment is so placed that the implement will be drawn from the centre of cut by the pivot of the swinging drawbar of the tractor, with no side thrust. The line of draft is a straight line from the centre of cut to the tractor drawbar.

is as low as possible so that the drawbar of the implement will be in line with the line of draft, which runs from the bottom of the centre disc to the drawbar of the tractor.

Additional traction to reduce slippage may be obtained for heavy draft either by filling the rear tractor wheel tires 90 per cent full with water or calcium chloride solution, or by attaching wheel weights.

ADJUST CARBURETOR TO AVOID FUEL WASTE

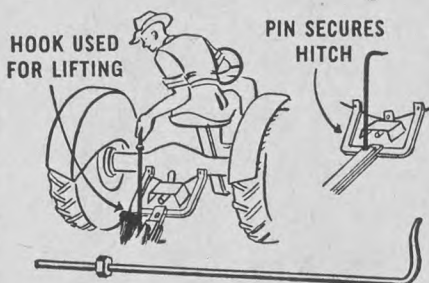
Your carburetor will supply your tractor engine with fuel in economical amounts only if properly adjusted.



Full power without fuel loss is the objective. After the engine is thoroughly warmed up, adjust the idle stop screw (1) to give the engine idling speed. Turn idling adjustment screw (2) either in or out until the engine idles smoothly. Next, with the tractor operating at normal load, turn down the load adjusting screw (3) until the engine begins to backfire and miss. Then turn back the screw slowly until the engine picks up speed until it won't gain further, and is running smoothly.

SOME RULES FOR SAFE TRACTOR OPERATION

1. Be sure gear shift lever is in neutral before starting the engine.
2. Always engage clutch gently.
3. Brake both wheels simultaneously when making an emergency stop.
4. Never ride on drawbar of tractor.
5. Watch sharply for holes or ditches into which a wheel may drop and cause overturn.
6. Reduce speed before making a turn or applying brakes.
7. Never refuel while motor is running or extremely hot.



8. Never stand between tractor and drawn implement when hitching; use an iron hook to handle drawbar as illustrated. Hook may be made easily from a piece of 3/4 inch iron rod 2 to 3 feet long, depending on height of tractor seat, and used both as hook and drawbar pin.

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A Cartel In Operation

A striking illustration of one type of restrictive business practice possible under cartel arrangements.

THE Krupp Steel Works of Germany first developed tungsten carbide, an alloy of diamond-like hardness used on the cutting edges of high-speed machine tools. Krupp sold it in the United States in 1927 for \$50 a pound. General Electric, however, had developed a comparable tungsten alloy which it called Carboloy, on which it held basic American patents. Using these patents as a bargaining lever, General Electric made a cartel agreement with Krupp in 1928, whereby it obtained exclusive control over the U.S. market. Then the price of cemented tungsten carbide jumped to \$453 a pound for most buyers, with a few favored customers paying \$360 a pound.

This price increase of 800 per cent brought the market value of tungsten carbide to 1.5 times the value of gold. The price of \$453 a pound remained unchanged, for ordinary purchasers, until October 1936, when it was reduced, after an amendment of the cartel agreement, to \$225 a pound. This was about the price favored customers paid after 1931. Krupp continued during these years to sell the same commodity in Europe for \$45 to \$50 a pound. The result was that Krupp's monthly sales of tungsten carbide to European machine-tool industries exceeded General Electric's annual sales of the same material, in spite of the much larger potential market on this side of the Atlantic.

The price restriction on the American development of tungsten carbide stirred up some controversy inside the General Electric organization itself. In 1931, an engineer at the Schenectady Works who had charge of making the material for use in General Electric's own shops protested against the high-price policy. He declared that "manufacturing cost . . . is \$8 per pound, and this is just as good tungsten carbide as is being made by anybody in North America or Europe . . . This shows the absurdity of trying to maintain the prices which we have evidently committed ourselves to, or perhaps others have committed us to." Pointing out that General Electric shops used more than twice as much tungsten carbide as the Carboloy Company was able to sell, at its "absurdly" wide profit margin, to all other machine shops in the United States, he said:

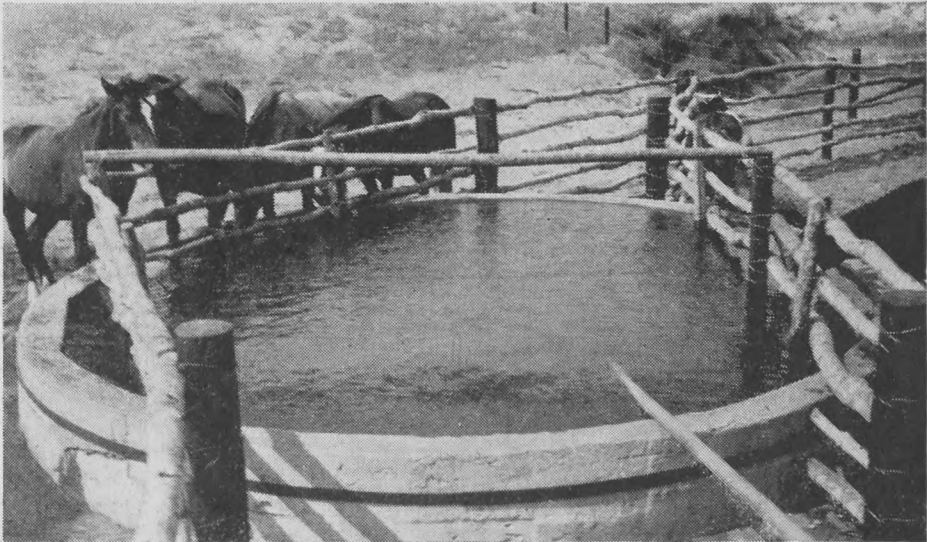
" . . . None of the above-mentioned concerns includes machining of steel

in its category. They simply advise their customers that carboloy is not suitable and cannot be used on steel. About 60 per cent of all our applications in the Schenectady plant have been and are on the machining of various steels . . . Now the principal reason for these various vendors not selling their tools for machining steel which is such an important item in the machine-shop industry today is that the prices they have to maintain for the carboloy (do) not allow them to put on carboloy enough to stand machining operations on steel . . . With the absurdly fictitious prices which are being maintained for carboloy tips, were they to put on enough of this material to machine steel, they would of course sell much less than they do at present, which to my way of thinking is just negligible."

Even after the 1936 price reduction of 50 per cent, the American price was still two to four times as much as the German price, depending on the quantity discount. The service charges that formed part of the price General Electric customers paid for tungsten carbide could hardly account for the entire difference between American and German prices. An anti-trust indictment in 1941 and the increasing need for this material in the National Defence program finally broke the bottleneck of cartel restriction. Prices dropped promptly. By April 1942 the OPA had set ceiling prices ranging, according to quantity purchased, from \$24.21 to \$45.36 a pound.

THE final astonishing fact about this bizarre episode is that the patents on which the cartel was based were invalid from the beginning. In 1940, a few months before the expiration of the basic patents, a federal court held that none of them, neither those which the General Electric itself developed nor those under which it acquired American rights from Krupp, disclosed any patentable novelty. Though all these pooled patents were void, they served for 12 years as a lever to keep the price of tungsten carbide at an extortionate level.

From CARTELS OR COMPETITION? a book-length study by George W. Stocking and Myron W. Watkins, under the auspices of the Twentieth Century Fund.



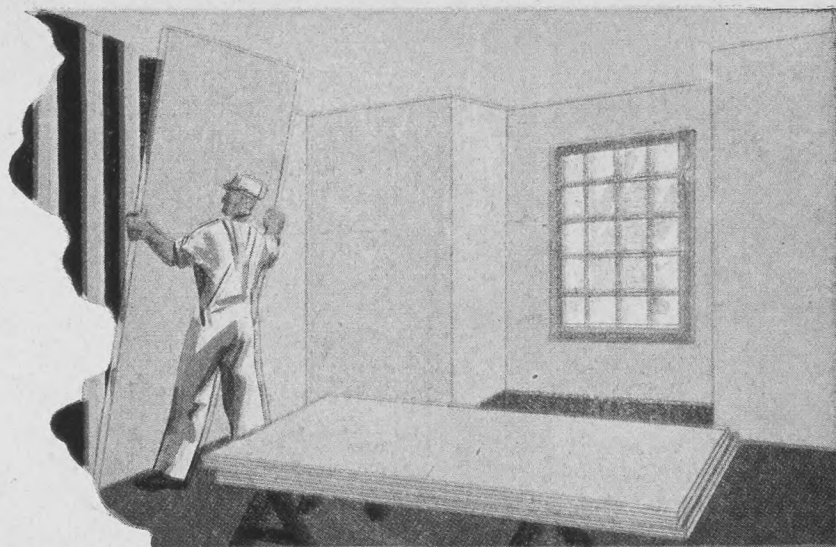
Watering point on a community pasture.

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Quickly - easily - economically*

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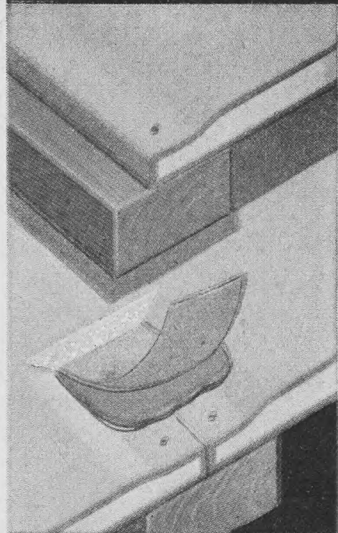
STONEBORD

THE FIREPROOF GYPSUM WALLBOARD



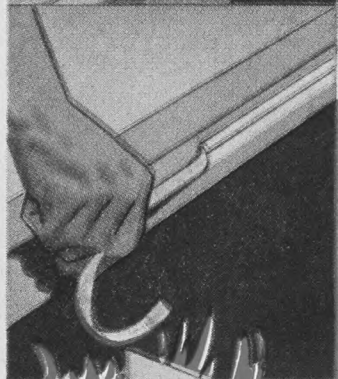
A bedroom like this can be made in your own home easily and economically. Stonebord is simply sawed to shape, nailed in place, joints concealed, then painted or papered.

**NO OTHER WALLBOARD HAS
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Both edges of each sheet of Stonebord have a recess as shown at left, which is filled with patented filler and tape, trowelled smooth and flat; then sandpapered. When painted or papered, joints cannot be detected, entire wall is one smooth, even surface. Filler will not shrink or check.



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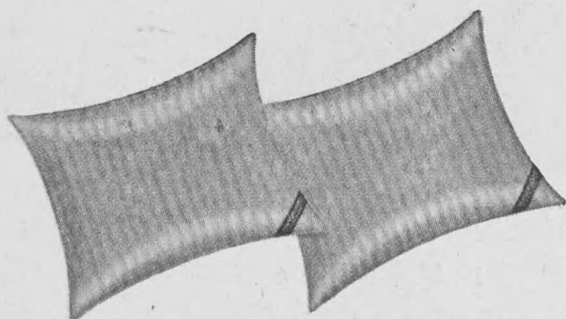
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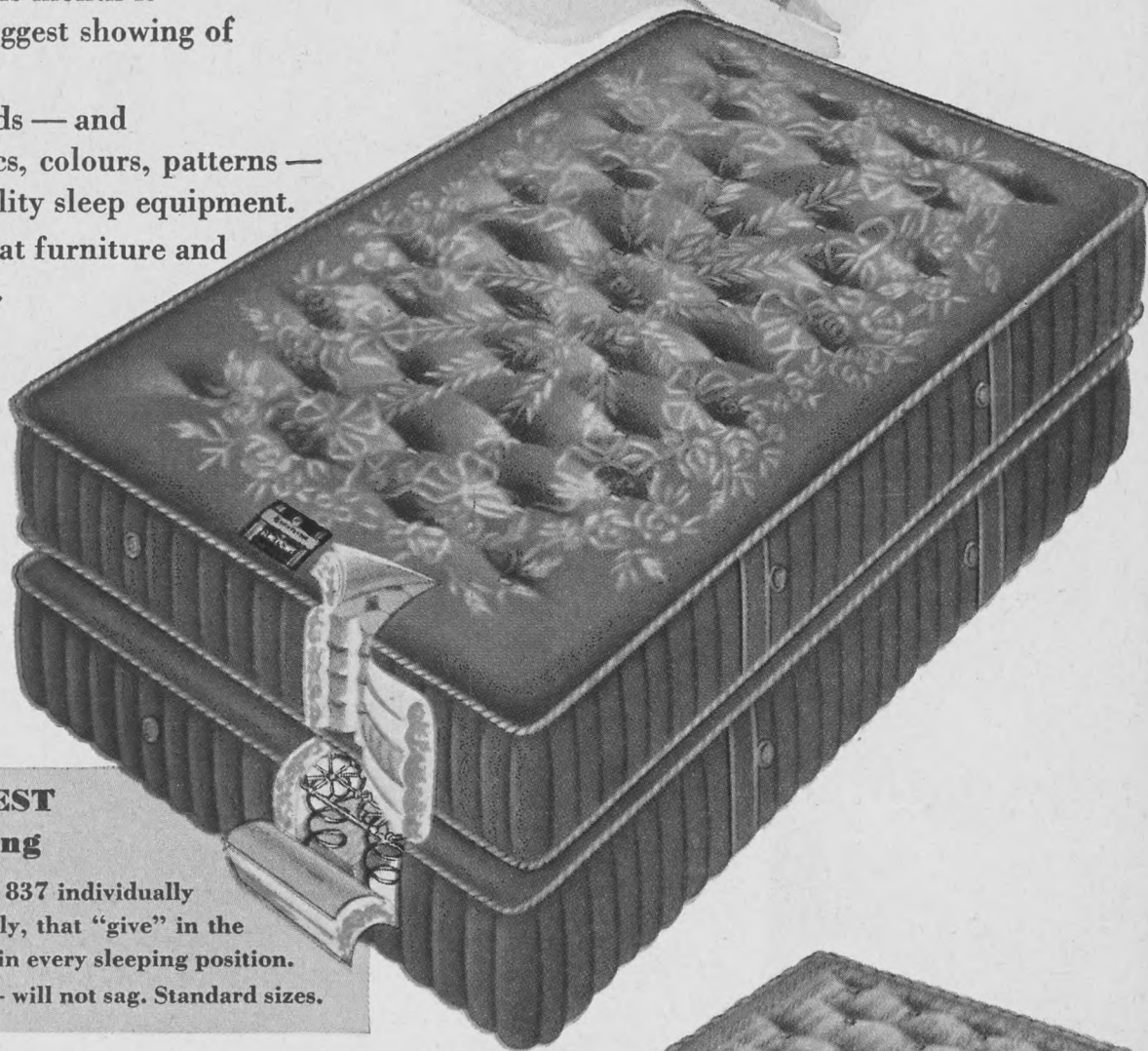


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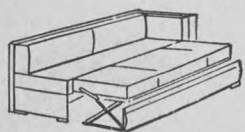
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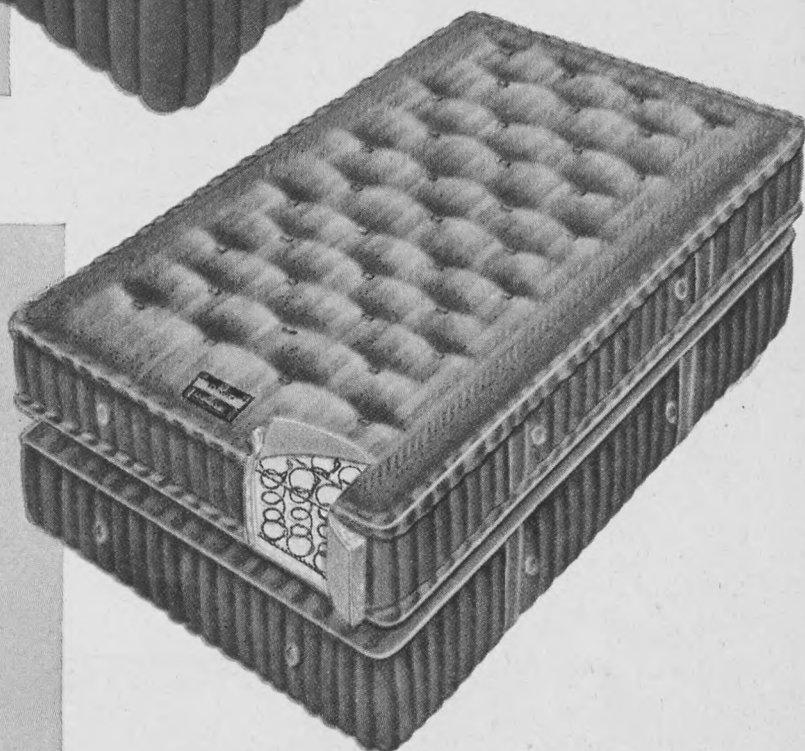
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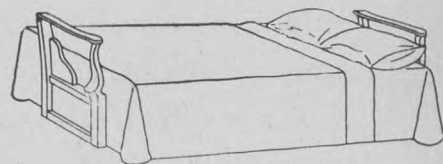
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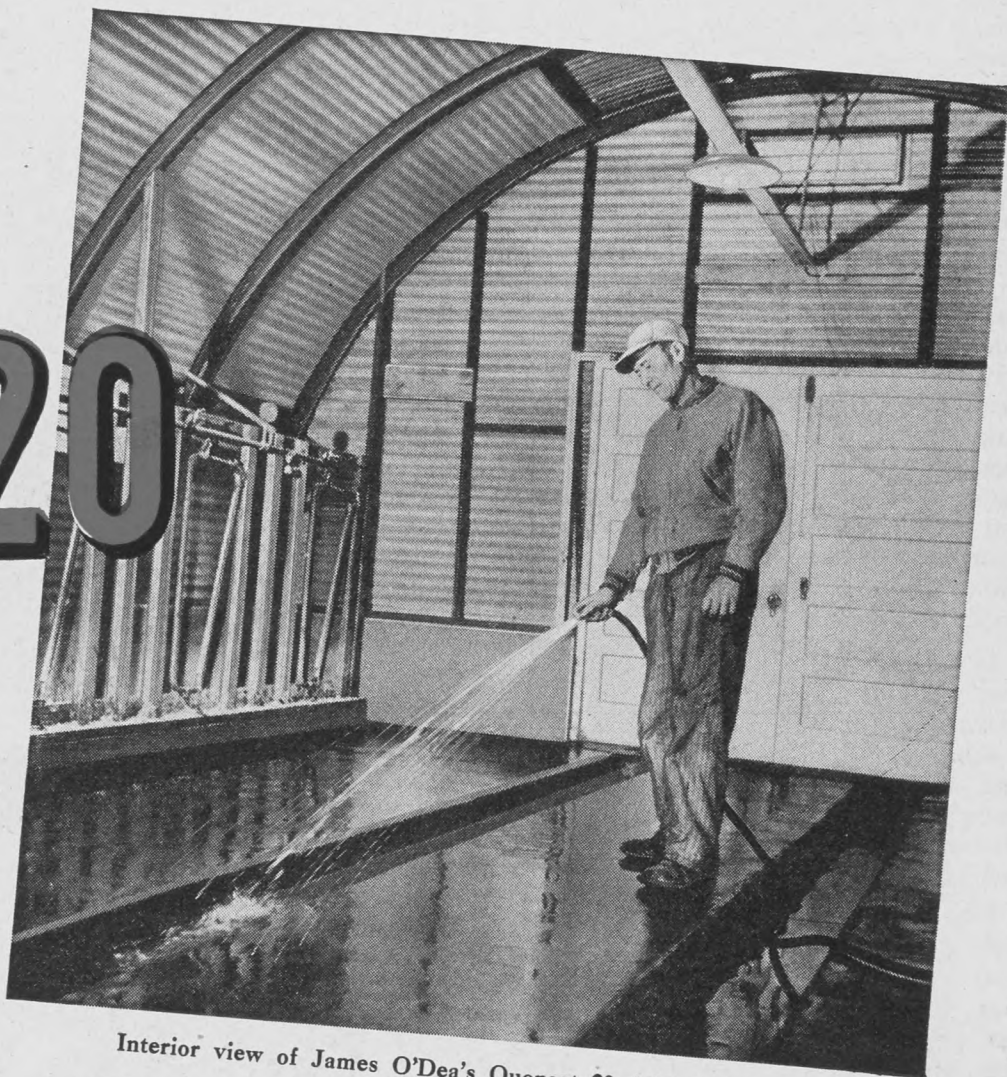
With a
STRAN-STEEL
Quonset 20

Dairy Building

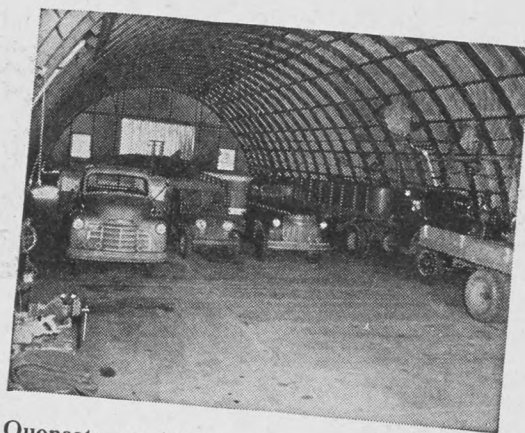
James O'Dea, Nebraska dairyman, gives full credit to his Quonset 20 Dairy Building for saving his time and boosting his profits to a new high. The easy adaptability of the Quonset has allowed him to save time and effort. He has found that the concrete floor and all-steel construction of his dairy building cut the cleaning problem to a minimum. The entire building can be hosed down quickly and easily...and every part from floor to roof stays *really* clean!

It is James O'Dea's opinion that the Quonset 20 Dairy Building is one of the most economical investments he has ever made. Milking and milk handling can be done more quickly, more efficiently...with no lost motion. The extra profits from increased production made possible by the Quonset have easily paid for the total cost of the building in less than a year.

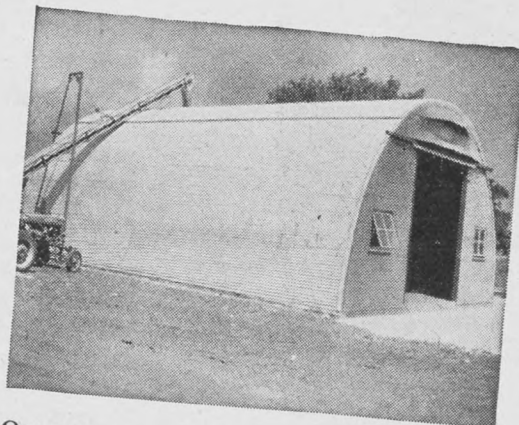
What's more, Quonsets are easily available! New, improved Quonsets for farm applications such as dairying, livestock shelter, implement housing, and grain storage can be delivered and erected on your farm in just a few days. Call your Quonset dealer today!



Interior view of James O'Dea's Quonset 20 dairy building.



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Farming In Florida

Distant pastures looked green until this prairie farmer enquired a little more closely.

by CHARLES SHELDON BLENKHORN

ARE you becoming disgruntled with the seemingly endless hours of prairie farming? Think again as we compare our methods with our fellow tillers-of-the-soil in other lands. For example, allow me to tell about some of the farming in Florida which I saw first hand.

While driving along the Tamiami highway between Tampa and Miami early in January of 1948 the writer saw herds of cattle feeding on baled hay on a ridge of ground not much higher than the surrounding countryside which had been flooded by a tidal wave. This feeding of cattle would have been normal procedure at that time of the year on the prairies, but there, only a few miles out of Miami, the salt water from the Atlantic Ocean had killed all vegetation besides drowning hundreds of livestock. Hay had to be shipped in by air to save the stock from starvation.

In Central Southern Florida I met a man who owns a large tract of land known as the Foster Farms. This land is subdivided into various sized acreages, some of which is rented out. A renter is privileged to rent any of the ten tractors owned by Mr. Foster as well as other machinery.

The writer also became acquainted with a young man, Robert Newton from New York, who was renting a tract of ground from Foster. Being very much interested in the farming methods of this part of the North American continent, I spent about two weeks watching him prepare the seed-bed for, and plant a watermelon crop.

The land there is low and level as a floor. The highest altitude in Florida is three hundred and twenty-five feet. The soil is pure sand in most all of the peninsula though the writer did see one area of rich black soil about eight feet deep.

A drainage ditch was first dug around the acreage for there they must prepare to drain quickly the almost tropical down-pours, otherwise the crops would drown. The sand, of course, dries quickly when drained, so these ditches must also serve for irrigation purposes. Water for this is supplied by drilled wells with force pumps. The Foster farms have about fifty such wells strategically located with a drilling outfit ready when necessity demands more wells.

The sod was disced up with a large double-disc harrow drawn by an Allis-Chalmers tractor. A few times over had it fairly well mulched. Bob Newton then took a McCormick Farmall and attached to the drawbar a hiller consisting of four discs, two in front and two behind, set at an angle of forty-five degrees, adjustable for various widths. A finished hill was approximately 18 inches wide at the top and three feet at the base, and about two feet deep. The space between the hills served as irrigation ditches.

When the hilling was finally finished Bob hooked onto a fertilizer machine which consisted of a hopper on wheels. Straddling the hill with this a cultivator blade grooved the hill, allowing

the fertilizer to drop into the hill. Hilling was once more done, working the fertilizer well in.

Planting in high hills was a new idea in those parts to try and keep the plants up out of the water. They grow long trailing vines similar to pumpkins, etc. I might add here that only one crop of melons can be grown on the same land in seven years.

Bob, with a helper, planted the ten acres by hand. Up and down those long rows in the hot sun, one with a spade making a depression in the hill, the other throwing in two or three seeds. There was a planter on the farm but it was in use. The majority plant by hand anyway for best results. This acreage was being planted a little earlier than usual for if the young plants escaped the frost, the fruit would reach the high priced market.

It turned wet and cold shortly after planting (about 24 above) and the cold wet ground rotted the seed. Planting was done again, this time more successfully.

As soon as the first two green leaves show above the ground, or even as they are breaking through, they are covered with a round, white cap, a water-resistant paper to protect them from the frost. The winter of '47 and '48 was one of the coldest on record. Eight degrees of frost is sufficient to freeze this type of plant, so great care is exercised in hunting out the young plants and getting them protected. The danger period lasts from three to four weeks.

These caps are left on until the plants start sending out their vines. The frost danger is usually past by then.

THE writer left for other parts at this stage, but he kept in touch with Bob for he was anxious to learn of the outcome of this highly speculative crop.

Weeds grow in sand just as they do on the prairies, but there they have to cultivate while the crop is growing. At first the tractor can be used, but it is not long with such rapid growth, before the hoe is resorted to. Hoeing ten acres of ground did not sound very interesting to the writer. Many of the farmers do all their cultivating by hand.

When the melons get to a fair size they are thinned out and not allowed to touch each other. Also, as they near maturity, the careful farmer will not allow the large ones to rest too long on one spot or a bruise will develop which will make the melon worthless.

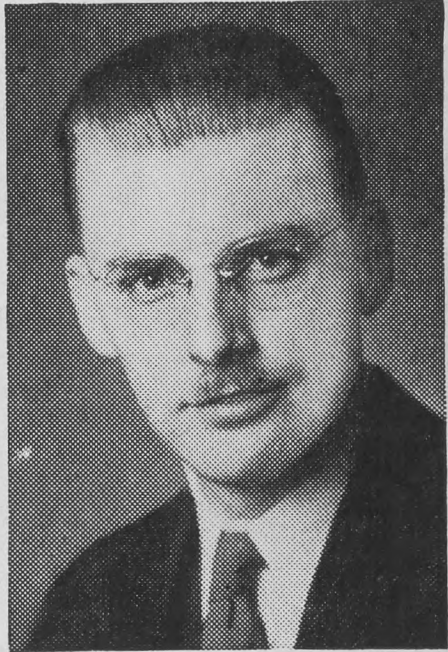
While it was not possible for me to get the exact figures on this crop, I was told it was a fair one and yielded a gross return of approximately \$300 per acre. Five hundred dollars per acre is a possible return for melons. The crop on this particular field started going to market about the middle of May. The price to the producer was from six to eight cents per pound. Melons will reach a weight of

NEW FACTS ABOUT 2,4-D

"Acid content is NOT THE ONLY FACTOR in the choice of a 2,4-D product," says J. S. Skaptason, B.S.A., Technical Supervisor Green Cross Insecticides. "It has been found that other ingredients in a 2,4-D formulation have a most important influence on the effectiveness of the product."

"We make these statements with confidence," continues Mr. Skaptason, "on the basis of our own Canadian experiments, which included almost 5000 experimental field plots during 1948. More than 2400 of these plots were located right here in Western Canada and were devoted to a study of the effect of 2,4-D on flax, wheat, barley and many of the common weeds."

"This research proved that the other ingredients in a 2,4-D product are *very important*. 2,4-D Ester does not go into the plant by itself. It is carried into the leaf by the other ingredients so that it can go to work."



Four ingredients are the secret of Weed-No-More superiority

"We also proved that each of the four ingredients in Agricultural Weed-No-More contributed to the superior effectiveness of this product. Any formulation which lacks one of these ingredients is inferior in effectiveness."

1. The *Oil Carrier* in Weed-No-More was chosen from over 200 oils tested. This special oil *increases* the effect on weeds, *decreases* the danger to crops.
2. The special *Emulsifier* was proven to cause less plant burn and give better control of weeds than any other emulsifier used.
3. The *Butyl Ester* of 2,4-D penetrates quicker. Rainfall minutes after spraying cannot wash it off.
4. The *Coupler* makes for a more stable formulation. It gives easier mixing in soft or hard water and better suspension in the spray tank."

The most economical Weed-Killer!

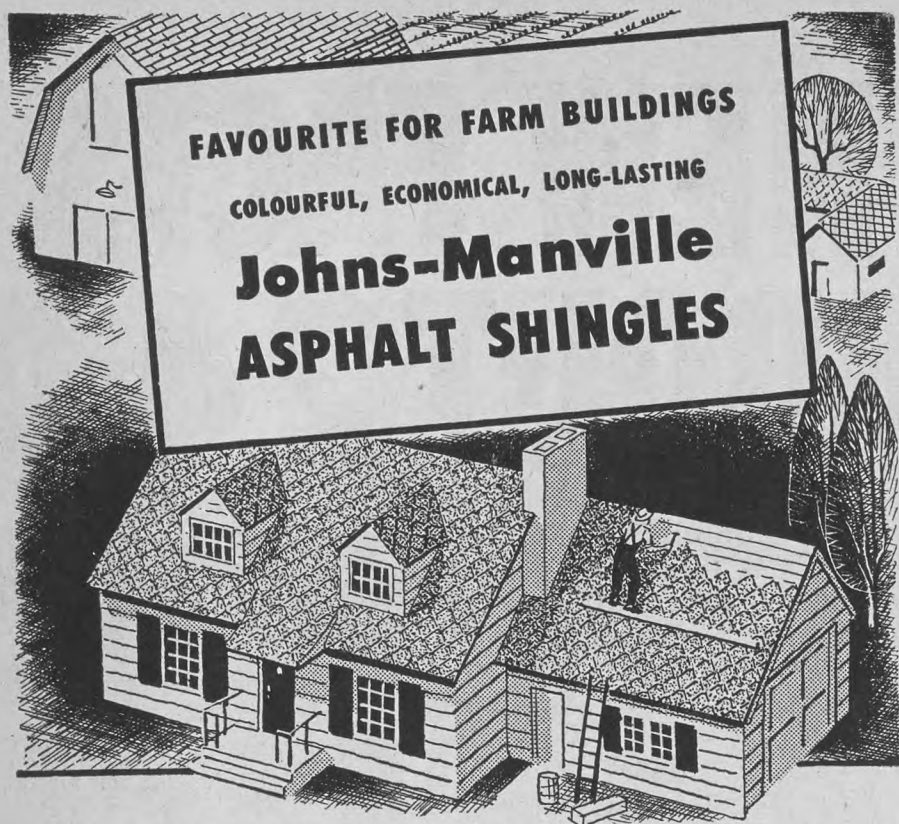
"It is these field-tested ingredients in the proper proportions that make Green Cross Agricultural Weed-No-More the most economical weed-killer in terms of the cost of effective weed control per acre."

"In 1948 alone, over 6,500,000 acres of grain crops in Canada and the United States were sprayed with Agricultural Weed-No-More."

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On the same farm I met a fellow-Canadian, a Mr. Nitchi, formerly of Saskatchewan. He had grown tired of the prairies and thought he would try his luck in a far away land. He was stoop-shouldered and tired looking. He had sixty acres of rented land, and was specializing in the raising of gladioli. He had tried watermelon and tomatoes without much success so was staying with the glads. He had his own machinery, having started with a mule and cultivator. When it came to planting, he always did it by hand. Hills were also used for these plants. Drainage was necessary, but not irrigation.

As I talked with Mr. Nitchi he would drop the small seed, similar to beet seed only darker in color, in exactly right spots in the row. His rows were straight as an arrow and half a mile long. He had gladioli in all stages from plants ready for picking to young shoots just coming through the ground.

The harvesting and preparing for market is also all hand labor. The pickers gather all the plants that are nearly ready to bloom. These are hand-graded in a large shed on the place. Mr. Nitchi's daughter with a lady helper were the graders. The plants were tied in bundles of one

yellow with windfalls. We passed hundreds of fruit-stands along the side of the highway offering oranges for \$1 per bushel and 50 cents per bushel for grapefruit. Yes, that's right! Large, luscious fruit at a give-away price.

The first week in January the farmers were being offered as low as 25 cents per box for their oranges. There was no demand for the grapefruit at all. Later on the price went up to 75 cents per box. The packing houses buy the fruit on the trees and do their picking, using negro help which is quite cheap. We were told by one farmer that he had let the packing house pick his tangerine oranges. As is usual with this variety, they were picked, graded, and sold before payment was made to him. In this instance he had not received one cent for his tangerines. The cultivation, and spraying, etc., was a total loss. When eating an orange one needs never worry about their cleanliness, for the packing houses do a thorough job of scrubbing them with soap and water.

Now just a word about the cattle ranching of which there is a lot done. Mr. Foster owns a herd of about 1,000 head. It was very hard for me to agree with him that they were a nice looking bunch for they were all Brahmas. They dress out well and do



A fertilizing outfit at Arcadia, Florida. In front of the tractor is one of the large mounds in which the watermelons are planted.

dozen each. These in turn were carefully packed into cases resembling banana cases, and shipped to their northern market by plane. A crate holds approximately sixty dozen plants. A price was being realized of \$3.50 per dozen for the good ones. The culls were bringing 50 cents per dozen locally.

Mr. Nitchi showed signs of making good, yet as I sat in the car watching the stooped figure move at snail's pace down the long row, and the four or five pickers wending their weary way among the rows upon rows of gladioli looking for marketable plants, I stepped on the starter, glad that I was a prairie farmer. Glad that I could ride a tractor to till the soil and plant the seed; ride a combine to do the harvesting; ride a truck to deliver my crop; yes, and even ride a tractor to haul the manure away from the barn. Glad of the winter, too, when I had to rest from my farming operations whether I wanted to or not.

CITRUS farming amazed me most of all. Thousands and thousands of acres of oranges and grapefruit groves with the fruit hanging on the trees and the ground underneath,

better in the semi-tropical climate than do the northern beef: Shorthorns and Herefords. They are, however, crossing with the northern varieties now and with considerable success. Needless to say, the butcher who advertises northern beefsteak has the largest line-up at his counter, no matter if the price is twice as much.

The cattlemen may have somewhat the advantage over the prairie stockmen in that he does not have to do any haying. He renews his pasture land by running a fire through the ripe grass in the spring of the year. He lives in town, loads his saddle-horse into the truck and takes him to the ranch where he rides his fenced range. It is of great importance to watch the calves at birth and apply ointment to the navel to protect them from an insect that attacks them at this spot. The bite is always fatal.

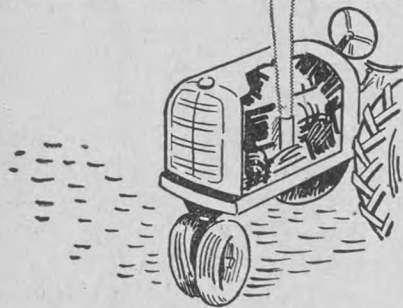
As we crossed the Suwanee River homeward bound and looked backward, I could see some bent form hoeing his plot of ground. Men, women, and even children hoeing out their existence. A common adage for the southern farmer is: "He never grows old for he dies young of a broken back."

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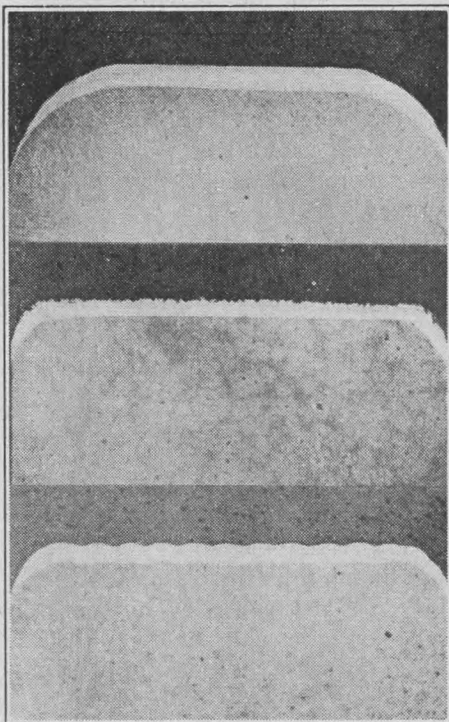
Chrome Piston Rings

Chrome-plated piston rings being introduced to farm service.

CHROME was first used in piston rings as a sportsman's luxury in racing engines. Manufacturing techniques were not developed to the point where they could be used economically on a production basis.

World War II supplied the incentive for the development of chrome piston rings. The desert sands of Africa were grinding away the engines of the British and American armies. Chrome rings were an important part of the answer and production techniques had to be worked out—and worked out fast. Chrome plated piston rings were soon sent out for use in tank, aircraft, and truck motors.

After the war, the application of chrome rings to general automotive use seemed to be a natural develop-



[Photo: Courtesy Magic Circle.]

Top to bottom: Hard chrome over smooth finish. Porous chrome over smooth finish. Hard chrome over "thread finish."

ment. Various types were in use. Testing and research were required to determine which was best suited to the needs of civilian motors.

The results of this work showed that solid chrome rings were superior in performance to other types. Production costs for solid chrome were high. It was further found that the most important application was in the top compression ring. Here the extra cost was found to be more than offset in decreased maintenance and longer operation.

Chrome is 400 per cent harder, or four times as hard as raw cast iron. Thus normal abrasives in the motor have little effect on it but instead have their sharp edges ground off to decrease the amount of wear they are capable of causing to other parts of the motor. The hardness also decreases the tendency of the rings to pick up, or become loaded with, abrasive particles. Cylinder wear is greatly reduced.

"Scuffing" is known as the result of a welding action between cylinder walls and the face of the ring. This action requires that the melting point of the metals be approached. Since the melting point of chrome is 700 degrees higher than that of cast iron, the tendency to "scuff" is practically eliminated.

The photomicrographs show cross-section views of the effects of the

D4 DEVELOPS ITS "6-PLOW" PULL ON SOFT, LOOSE SPRING SEEDBED

UNDER AVERAGE Prairie Province conditions, the 43-horsepower "Caterpillar" Diesel D4 Tractor pulls six 14-inch moldboard plow bottoms—at 3 miles per hour.

And this tractor on broad tracks comes mighty close to developing its "6-plow" drawbar pull on soft, loose spring seedbed.

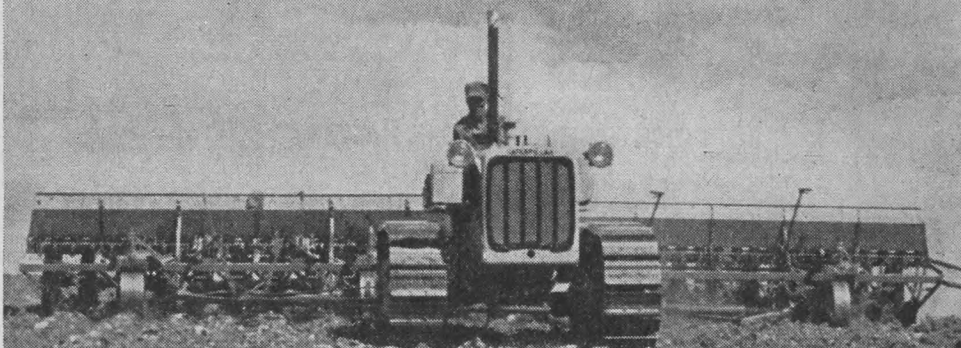
Traction is the reason. Traction of broad tracks that support properly-distributed tractor weight, like bridge-planks. Traction of multiple grouser-grip, with 20 grousers (10 of each track) constantly on duty to beat slip.

That's why this tractor gains yield-boosting days in spring, and seeds the crop early, without harmful soil-packing or costly delay. That's why a "Caterpillar" Diesel Tractor can pull the combine, even in a muddy harvest field.

And it's why Canadian grain growers who use this wide-hitch Diesel power are 'way up in front with those who lead the world's economy parade! There are 5 practical farming sizes of "Caterpillar" Diesel Tractors—32 to 130 drawbar horsepower.

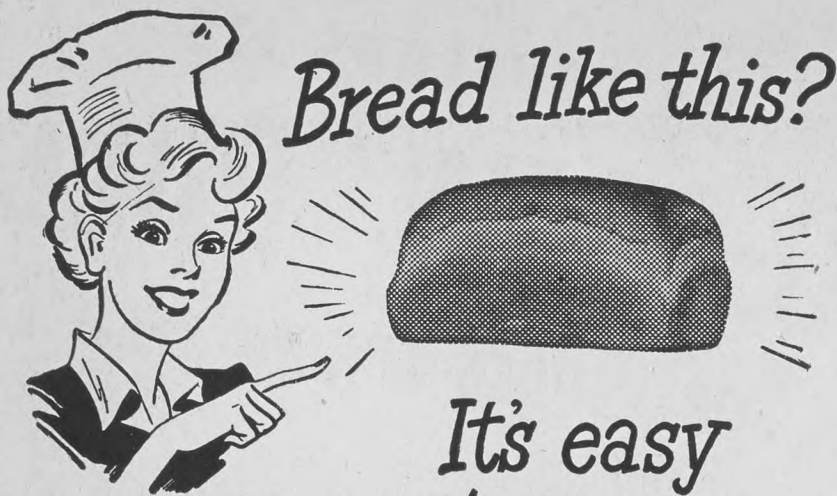
CATERPILLAR TRACTOR CO., PEORIA, ILLINOIS, U.S.A.

This 43-hp. Diesel D4, equipped with lights to work 'round the clock, pulls the 30-foot hitch of press drills at fourth speed (3.6 M.P.H.) seeding 10 acres per hour, on only 2 1/2 gallons of fuel.



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| 1 pkg Hi-Do Yeast | 4 1/2 cups lukewarm water |
| 2 tbspn melted lard | 3 tbspn sugar |
| 12 cups sifted flour | 1 tbspn salt |

Dissolve 1 tspn sugar in 1/4 cup water. Add 1 pkg Hi-Do. Let stand 15 min. Beat together lard, sugar, salt, 6 cups flour, remaining water until smooth. Stir yeast; add to batter. Beat slightly. Add remaining flour. Mix smooth. Place in greased bowl in warm place to rise to double bulk. Punch down. Let rise again 15 min. Cut and mould into loaves to half-fill greased pans. Cover. Let rise 1 hr. or to double bulk. Bake 3/4 to 1 hr. Can substitute milk for water, butter for lard. Use 2 pkg. Hi-Do for quicker results.

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VEL dissolves completely, washes perfectly in the lukewarm water safest for woolens and fine washables. No soap scum. Colours stay brighter. Woolens stay softer, fluffier.

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various methods of applying a chrome finish. Applying the chrome plating over a smooth surface, results in a smooth surface. This creates a large amount of heat and friction, thus more wear. By a reverse plating process, some of the chrome may be removed, leaving a porous surface which will cause less wear and will assist lubrication but has a tendency to "flake-off" during the "run-in" period. The bottom "photo" shows a recommended surface, obtained by leaving the base metal with a "thread finish," which

produces the same finish in the plated chrome. The surface is lapped after deposition to leave the crests partially flattened off.

It is likely that this type of piston ring will soon invade the farm tractor field. It is being used by some manufacturers of passenger cars and trucks and is being recommended for repair and replacement jobs. The particular advantage to farm users would appear to be in the ability of these rings to resist wear in the cylinder due to dust and dirt.

You Sell Old Hen?

Two civilizations meet in a commercial transaction.

By ADDIS MILL

GLANCING out the window I saw an elderly Chinese, neatly clad in black overalls and smock, coming down the path. "Chung after chickens," I murmured as I went to the door.

"You sell chickee? Bossee man home?" he asked in a sing-song voice.

"I don't know," I replied, leading the way to a shed at the rear, "Bossee man in here. Charlie, here's Chung after hens."

"Hello Chung. I don't think I want to sell any hens now. They are laying pretty well."

"Allo, allo. Me give you good price. Eggs soon go down now. All chicken man want to sell chicken. Me no buy."

"How much will you give?"

"Dollah Sixty."

"Dollar Sixty. I wouldn't sell for less than a dollar eighty."

Chung regarded this as a joke. When he laughed his face folded into a thousand little wrinkles and his still sound teeth flashed. He saw that a head-on attack was getting him nowhere, so he decided to retreat and bring up his forces on the flank.

"Where your boy now?" He used to bring the boy chocolate bars when he was a little fellow.

"He's away working."

"Make a lot of money?"

"Pretty good."

"Him give money to you?"

"Oh, no, he keeps it himself."

"A-ah." He shook his head reprovingly. "Chinese boy give money to moder, fader. Boy good. Get married, stay home moder, fader. Girl get married—goo'-bye. Me old man now. How old you think?"

"Fifty-seven, maybe." This brought a wide smile.

"Sixty-five, now." He didn't look it. He had hardly changed in the fifteen years we had known him. "Me five gland-children—three boys. You sell chicken dolla sixty-five?"

"I don't want to sell," said Charlie.

"Dollah seventy?"

"Dollar eighty or nothing."

"I look. I look."

HE hadn't bothered to look before because he has dealt with us so often he knows what our chickens are like. How a Chinaman can take one look at a flock of chickens and judge their weight I don't know, but he will never make a mistake.

"Me leave twenty thin ones. Give you dollah seventy-five for oders."

"Take all or none."

"You sell all dollah seventy-five?"

"Okay, okay. Bring your crates in."

He has a half-ton truck. Two crates fit in the box and four rest on top of that, projecting over the box.

He brought his crates into the chicken house, piling all but one to form a corral into which to drive the protesting hens. There is a Chinese puzzle slot in the top of each and this he opens in the first crate and I take my place beside it to check the count. He really knows his job and moves more like sixteen than sixty-five. He has that short, quick trot that distinguishes the walk of an Oriental.

He reached into the "corral," grabbed five by the leg, and put them one at a time into the crate, counting as he did so. This may seem cruel, but he is so quick about it they hardly know what is happening. When he could no longer grab them by hand he took his hook, which is like a small shepherd's crook made of heavy wire and caught them with that. Putting some into the crate he chanted, "Twelve—thi'teen—fourteen," dropping in two.

"That's fifteen," I said.

"All light, fifteen," he said. I had been expecting him to play this trick. He always does it—more, I think, for fun than with any hope of cheating us out of a chicken.

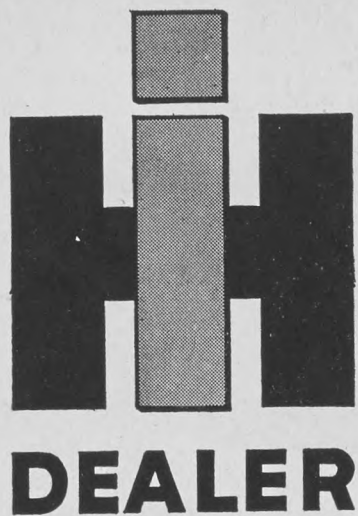
Later I said, "You've twelve in that crate." I must have made a mistake for he replied decisively, "No, lady, eleven," opened an empty crate and started transferring the hens to it one by one to let me plainly see there were only eleven.

AT last they were all in the crates and loaded on the truck. As usual, paying for them was a kind of ritual. He squatted on his heels and did a little Chinese sing-song to himself, then said, "How much?"

"Three hundred and twenty-five dollars," I said, just to see whether the sing-song was arithmetic or not. Apparently it was, for he laughed as the Chinese love to laugh. "Two hundred twenty-four," he said. I grinned and he hauled out a roll the size of half a loaf of bread. Most of the bills were small, he counted them first to himself and then again, handing each bill to me. When it was done to his satisfaction he saw Charlie returning and said, "You hide. I tell him no got money." I fell in with his joke and he said to Charlie, "No got money today. Me bling molla mo'ning."

"That's all right."

He busied himself roping on his load, but I saw he was shaking. When he could hold it no longer he touched Charlie, then pointed to me. I brought out the money from under my apron. We all roared with laughter, not because we thought the joke so funny, but because it amused him so much.



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By milking quickly and thoroughly, IH milkers step up your milk production and cut milking time away down. And they guard the health of your herd at milking time with their gentle, massaging action and correct, dependable vacuum. Their stainless steel construction and top sanitation features lead to the production of cleaner, better milk and a surprisingly low bacteria count. You will quickly discover that IH milkers are a real asset in your dairy barn.

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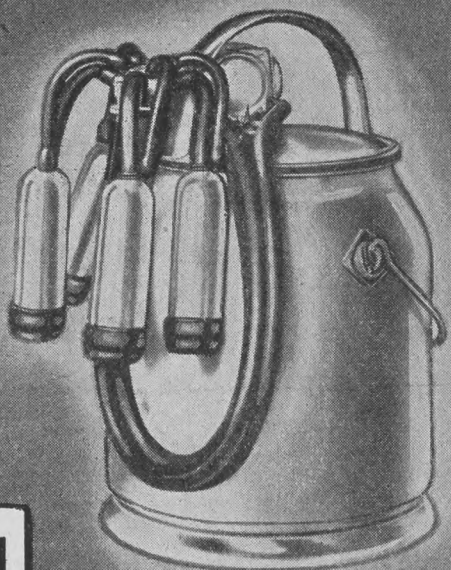
INTERNATIONAL HARVESTER COMPANY
OF CANADA LIMITED

Hamilton

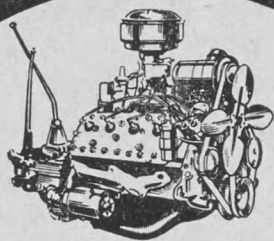
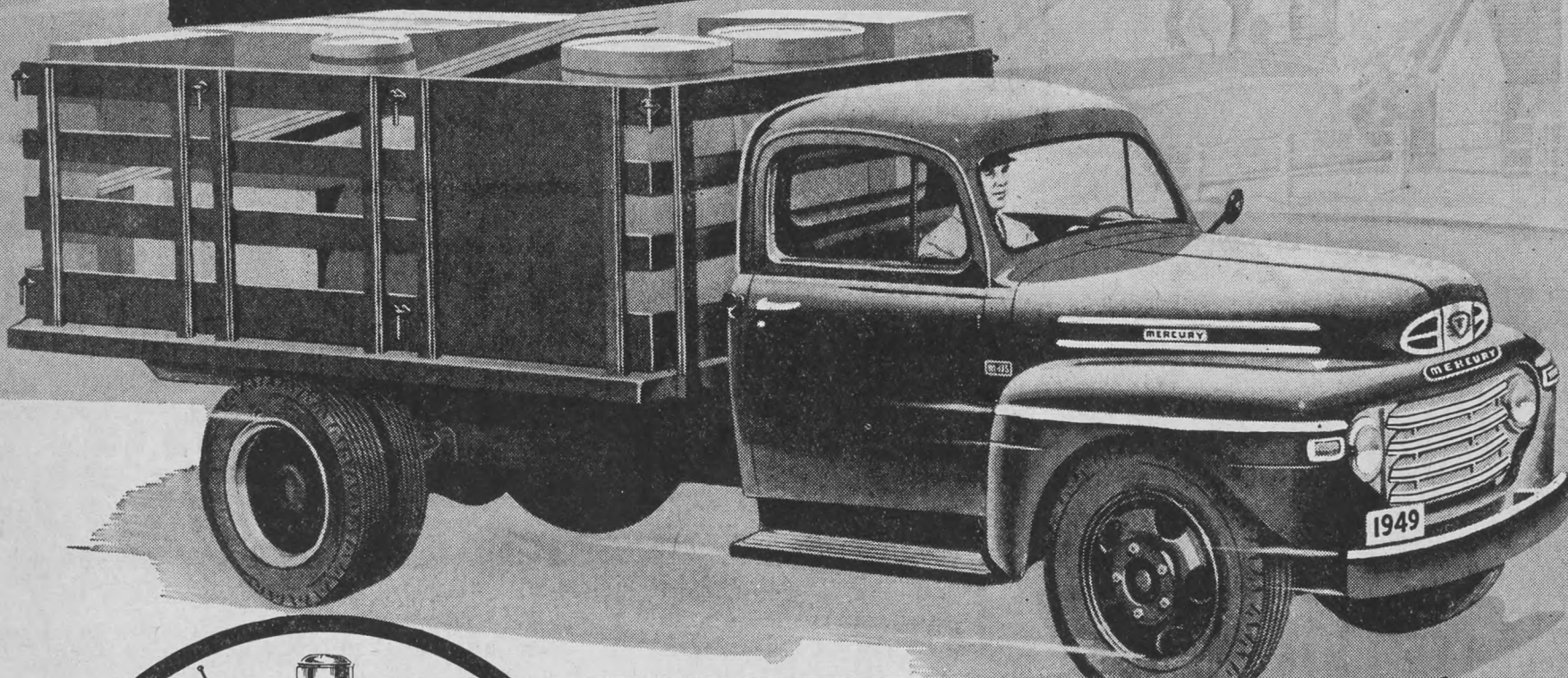
Ontario

**DAIRY
EQUIPMENT**

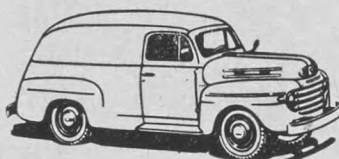
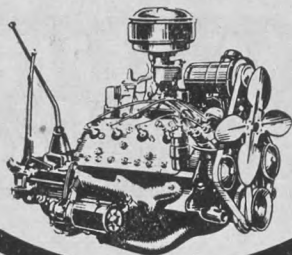
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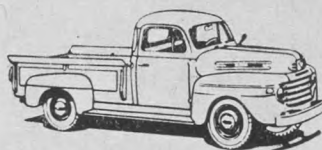
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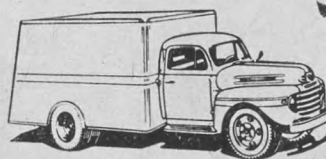


SERIES M-68 EXPRESS

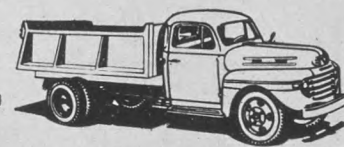


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FROM 1/2 TO 3 TONS...
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See your Mercury Truck Dealer for the complete story of trucking economy

MERCURY TRUCKS

MERCURY-LINCOLN-METEOR DIVISION



FORD MOTOR COMPANY OF CANADA, LIMITED

Pulverizing A Mountain

A variety of local resources at Exshaw is blended into cement.

by DAN. McCOWAN

THAT section of the Canadian Rockies lying between Calgary and Banff is approximately 1,000 tons lighter than it was yesterday. By this time next month it will have been reduced by a further 30,000 tons. This is not due to erosion but to the round the clock activity of the inhabitants of Exshaw. These people, directly and indirectly, are engaged in converting a limestone mountain into superfine cement and, to the layman, a tour of the great mill wherein rock and shale is roasted and ground and otherwise processed is indeed a memorable experience.

The quarry from whence the bulk of the raw material is obtained is appropriately but a stone's-throw from the plant. During the almost half century in which the mill has been in operation huge slices of rock have been carved from the hillside and today the quarry floor is as large in area as a football pitch. In a few days it will be further enlarged as result of another periodic blasting operation. About once in every three months a narrow tunnel driven into the towering rock wall is cautiously packed with a charge of 5,000 pounds of dynamite. The subsequent explosion dislodges sufficient limestone to keep a pair of massive but alert electric shovels busy for the next 12 weeks.

At frequent intervals the engineers operating these shovels play ball, the ball being a half ton pellet of steel. Hoisted skyward in the shovel scoop and suddenly dropped on an oversized unwieldy chunk of rock it usually requires but one blow from the weighty ball to burst the boulder into fragments.

Ponderous trucks haul the rubble to a nearby crusher where it is further reduced in size. From thence it enters the mill proper on a conveyor belt and is dumped into storage bins as large as a prairie grain elevator.

In addition to lime the raw material from which cement is manufactured must contain alumina, silica and iron oxide. At Exshaw the stone quarry furnishes the all-important lime but the other ingredients mentioned are contained in shale dug from a large pit on the south bank of Bow River at neighboring Seebe and brought to the mill by rail. This material is also crushed and stored in bins for further use.

When required the limestone and the shale is transferred to large tube mills where intermixed, four parts limestone to one part shale, it is ground to an exceedingly fine powder. The addition of water to the compound forms a batter that looks like extra thick pea soup and is called slurry. This is pumped into capacious concrete silos and, to prevent settling, is agitated by compressed air. Slurry from various tanks is then blended in mixing basins and, when careful analysis shows that the desired composition has been produced, is then ready for cooking in the giant rotary kilns.

EXSHAW has two of these immense horizontal steel retorts in constant use. Over 400 feet in length, 11 feet in diameter and lined with heavy fire brick they are purposely installed on

a slight slope, about one-half inch to the foot, in order that the load may gravitate from the upper to the lower end as the kiln revolves. At the lower end is the roaring fire stoked with finely powdered coal, part from Canmore and part from Crow's Nest mines. No fewer than 200 tons of this fuel are blown daily into the Exshaw kilns by high speed fans.

The slurry pours into the upper end of the fiery furnace and during the first 60 feet of its torrid journey is compelled to pass through festoons of heavy chain looped to the interior of the kiln. This, together with a temperature of 800 degrees Fahr., rapidly drives off the water content of the mixture. Half way down the revolving cylinder the temperature has risen to approximately 1,600 degrees Fahr. and the slurry has now become a dry, friable substance, easily crumbled. Descending into the actual fire zone (temperature 2,800 degrees Fahr.) it there blends with the coal ash to form a vitreous clinker. This clinker is dumped through grates into a cooler and, after being mixed with a small quantity of gypsum, is thoroughly pulverized in what is called the finishing mill. The resultant greyish, floury substance is standard cement.

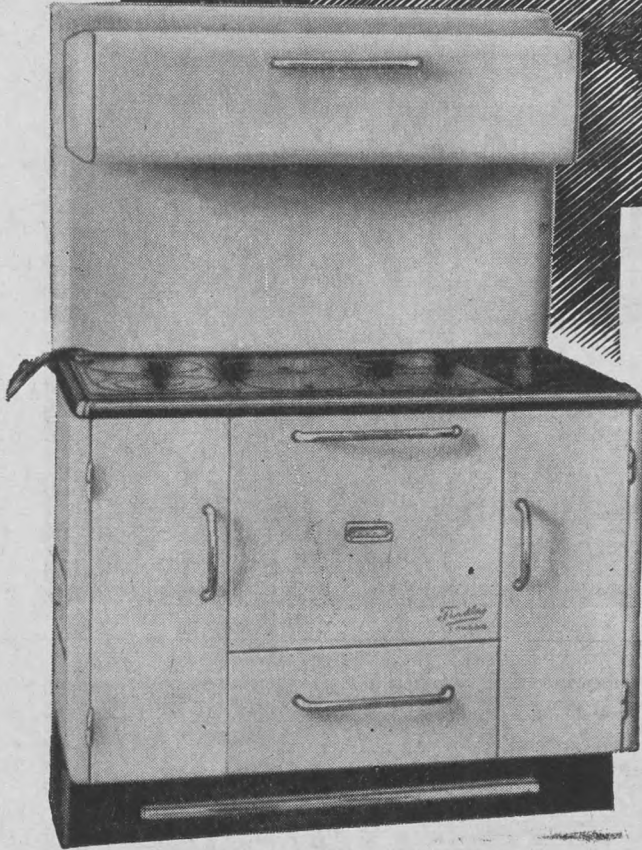
A special, quick-setting cement called High Early Strength is also manufactured at Exshaw. It is used chiefly in patching highway paving and is invaluable in the drilling of oil wells. In the battle to bring Atlantic No. 3 under control, an oil well which in 1948 went on a rampage in the Leduc field, no fewer than 10,000 sacks of cement were poured into the hole in the ground.

FROM overhead hoppers in the Exshaw mill the dry cement pours smoothly through narrow spouts or taps into the stout paper bags in which it is carried to its ultimate destination. The spout is thrust into the top of the sack through a narrow paper valve which automatically closes when the container is filled to capacity—a most ingenious invention.

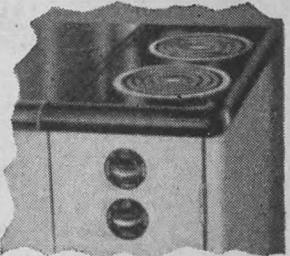
The men employed in this department—this filling station if you will—are as deft as an expert hand loom weaver. Being paid by output and not by the hour they have no time to dilly dally. Into awaiting box cars on the railroad spur track goes the almost constant stream of pudgy bags, 1,000 to a car. Normally about 40 carloads of cement leave the Exshaw mill daily. Two hundred men are on the permanent payroll and the permanent slogan of the village is SAFETY FIRST.

Although this modern cement mill is mainly powered by electricity there is marked contrast between the rumble and roar within the buildings housing the crushers, the grinders and the massive retorts and that of the cloistered silence of the spic and span laboratory. Here the patient analysts and chemists—one might flippantly say the cooks, keep close watch over the quantity and quality of the raw material which goes to feed the hungry kilns. Making and baking countless cubes and patties of cement for test purposes they strive to maintain the high standard of the finished product.

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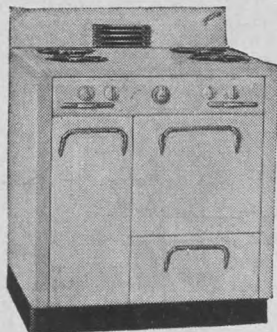
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May be had instead of reservoir if desired. Two sturdy, fast electric elements. A great convenience in hot weather.

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Modern, streamlined design. Extra large oven takes largest roast. Outside finish is gleaming white porcelain. Oven is mottled blue porcelain, easy to keep clean and shining. Porcelain finish flues are rust resistant. Handy utensil and warming drawer. Also available with high shelf.

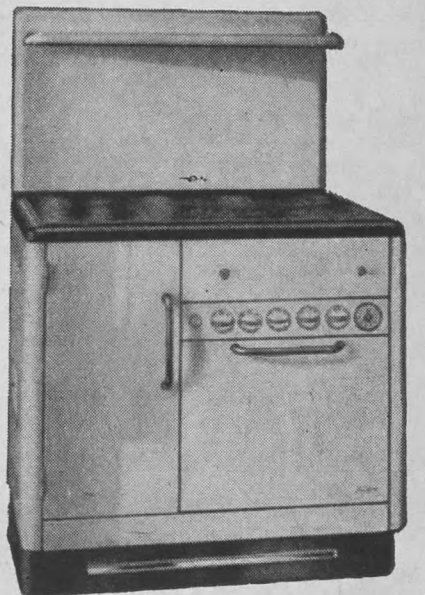


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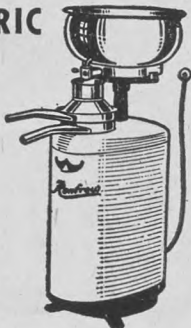
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A modern stream-lined, all-electric Cream Separator with a gleaming lustre-white enamel finish. The top of the milk tank is only 39½ inches above floor level, practically eliminating milk lifting. There are no gears — no clutch — no oiling — quiet running. With floating power, knee-action motor mounting and lifetime lubrication, the clean-skimming Renfrew Console Electric gives velvety-smooth operation. Let electricity take the hard work out of your separating.

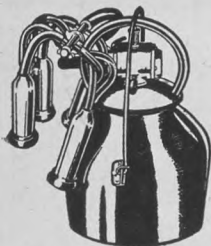


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Before you buy a Cream Separator or a Milker, ask the Renfrew Representative in your district to give you a demonstration.

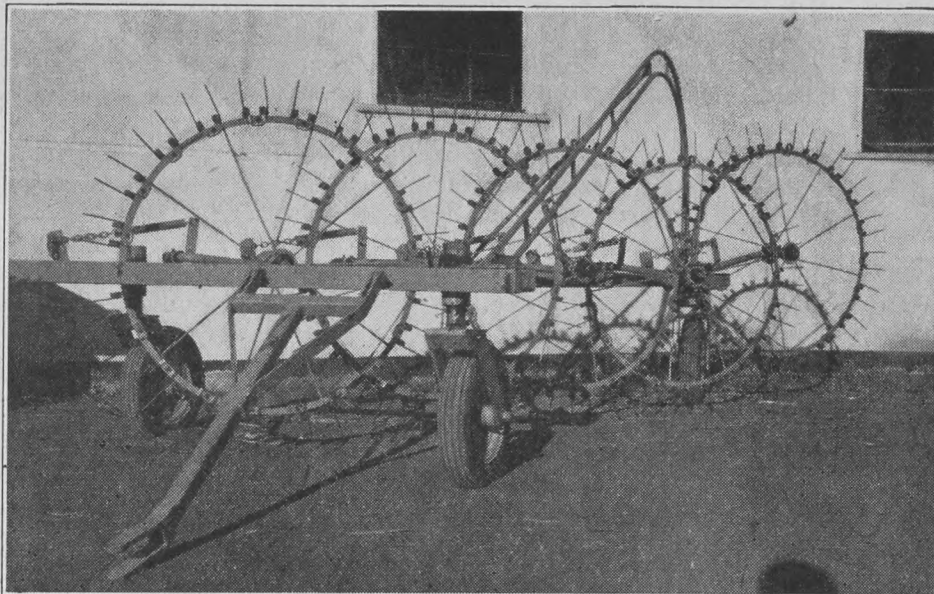


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A new departure in side-delivery rakes—to be called the roto-rake.

Farm Machines

Continued from page 13

disinfecting buildings. Tank capacities range from 40 to 500 gallons. They are mounted on the rear of the tractor, on separate trailers or on trucks and in one case on an A-frame which is hinged to the back of the tractor and carried by the hitch and a caster wheel at the point of the "A."

A RAPID development has also been seen in equipment for handling forage crops, hay and straw. This appears to be a natural result of the labor shortages experienced during the war, combined with the need for gathering straw for feed and for bedding. Field cutting machines in various forms are on the market. Pick-up hay balers are becoming very common and field sweeps and stackers are now being made commercially to replace the home-made units developed on the farm as the need arose.

New machines include a stone-picking trailer which resembles a manure spreader with beaters dragging in the ground. The rotating forks are driven by a power take-off shaft from the tractor and are capable of clearing off stones from two to eight inches in diameter. A hopper-trailer is now on the market, designed to handle grain or cut feed. The auger in the bottom of the trailer and the blower at the rear are driven from the tractor. These developments are probably more striking than the improvements to existing lines of machinery.

Although some advances may be noticed in mechanization of operations around the farmyard, greatest attention is being paid to the larger

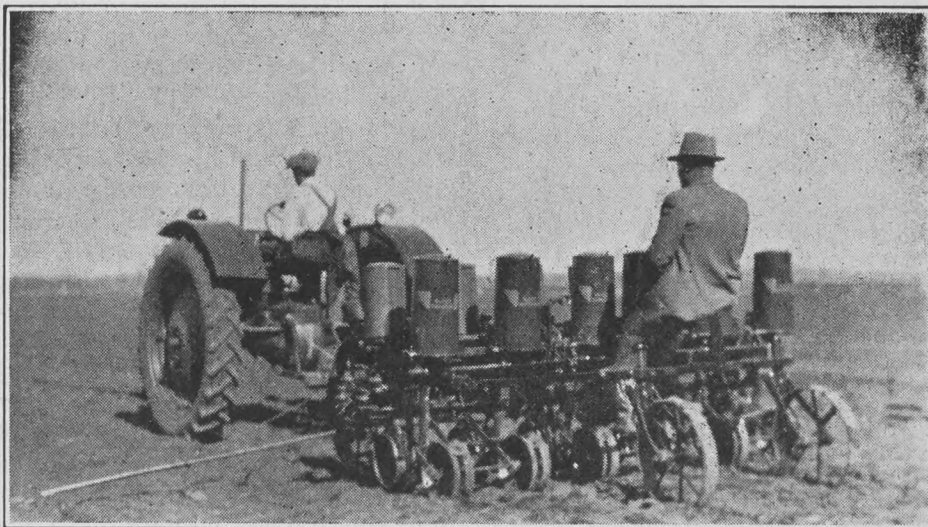
units for field work. Electrification aids in closing this gap. It is pointed out that there are over 300 uses for electricity on the farm and new ideas are being added. An electric pipe-thawer is an addition which may be used by the inexperienced to thaw out water lines. The output leads from the unit may be clamped to the pipe and will quickly heat up the section between the terminals, in the case of buried piping, without removing it from the ground.

Tractor sales indicate the general swing to mechanized farming. In 1948, sales established a record in each of the four western provinces. Of the 25,842 tractors sold, 24,516 or 95 per cent were on rubber.

Western Canada Tractor Sales

	Man.	Sask.	Alta.	B.C.
On hand in June, 1946..	30,000	73,000	50,000	2,697
1946 sales —	2,765	5,901	4,029	905
1947 sales —	3,537	8,967	6,541	1,114
1948 sales —	4,945	10,678	8,025	2,194
Totals —	41,247	98,546	68,595	6,910

It must not be forgotten that machinery in itself is not productive. Mechanization is costly and must be charged as an expense against the produce which is marketed. Over-mechanization or inefficient machines jeopardize the success of the business enterprise in which they take part. While some call for more labor-saving devices and mechanical gadgets, it may be well to analyze each situation on its merits. We may safely say, however, that where a large amount of labor is employed in agricultural production, our chances of replacing that labor force with more efficient machinery is better today than it ever has been in the past.



Spring time with the market gardeners.

It's Here! **new**

HAVOLINE MOTOR OIL



RELEASES MORE

Power

*Because it keeps engines
cleaner and better lubricated*

This famous Premium Motor Oil, a noted leader in America for nearly a half century — the choice of leading farmers from Coast to Coast — is available now to Canadian farmers.

Continuously improved, Havoline is a new kind of motor lubricant. It's more than a motor oil. It's a motor cleanser, a motor tonic, too. It cleans as it lubricates. It acts as a safe, gentle purge that rids your motor of clogging carbon and sludge, both robbers of power and fuel.

Call your local McColl-Frontenac Representative today and order Havoline Motor Oil and discover what a difference a clean engine can make.

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6. **MORE CAR AND TRUCK MILES — MORE TRACTOR HOURS** — You get longer engine life, extra protection against corrosion, too.



**IT PAYS TO
FARM WITH**

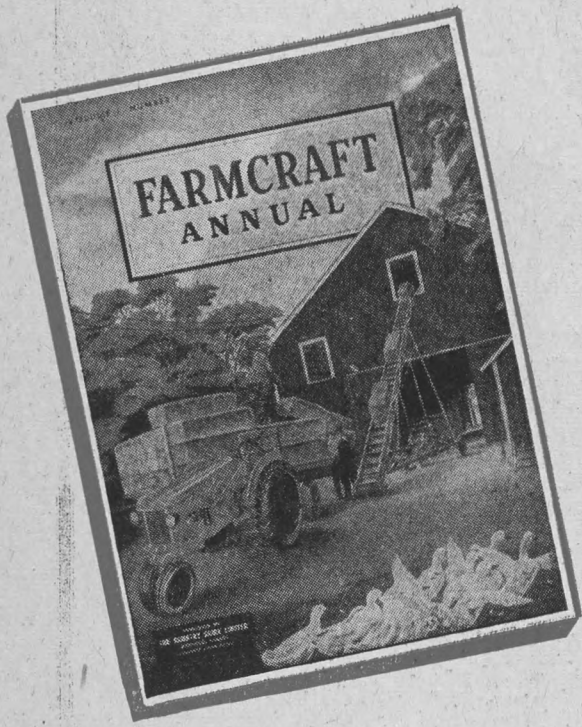
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IS MAKING A 'SMASH HIT' AMONG WESTERN FARMERS



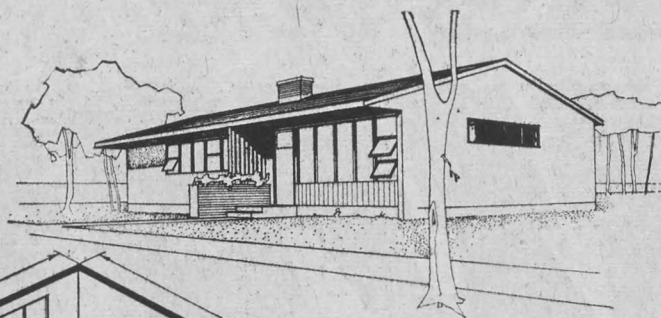
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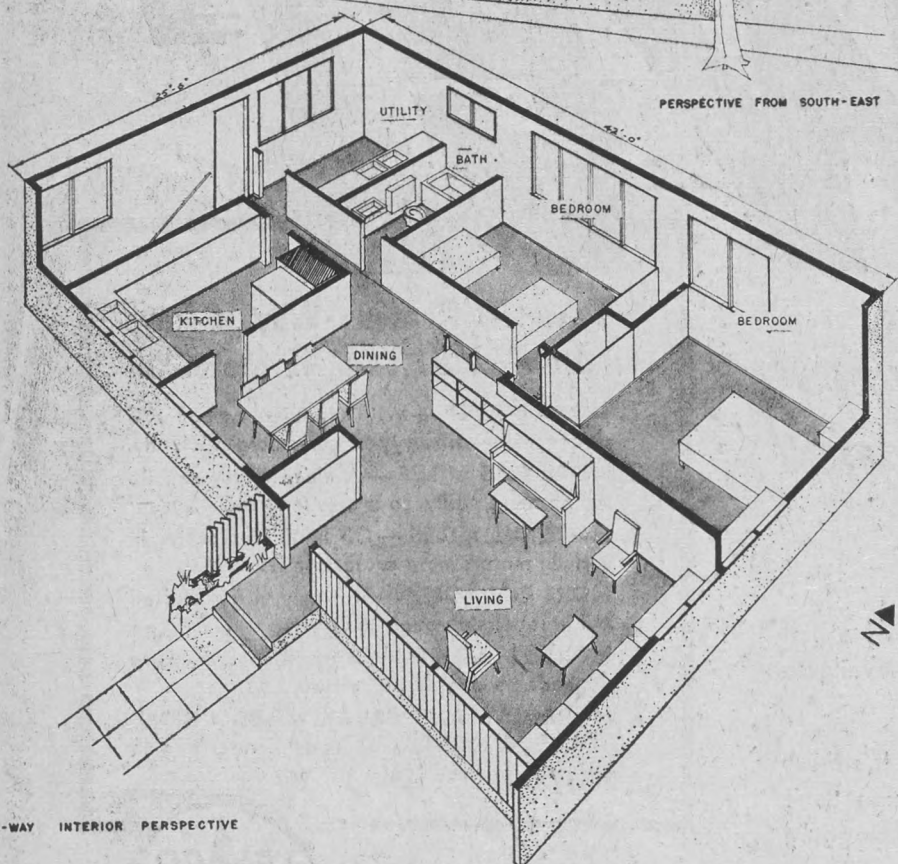
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Hoppers Are Coming

Continued from page 8

land should be worked to the centre, and the unfinished land on which the young hoppers are concentrated, poisoned by using bait or spray.

Poisoned bait was used in immense quantities. Liquid sodium arsenite, and later the fluosilicates, replaced the paris green and crude arsenic of the earlier campaigns. The satisfactory results that followed the use of a much greater percentage of sawdust in the bait mixture—as much as 13 parts to one part of ground wheat or low grade flour—happily did much to bring down the cost of a ton of bait. In addition to mechanized mixing stations, this campaign saw the introduction, and quite general use of mechanical spreaders of many types. These were mostly home-made.

Within the past two or three years another forward step has been made with the introduction of the new spray poisons. These, after experimental testing, were used under field conditions last summer, chiefly in Saskatchewan, with very promising results. The two chemicals are chlordan and toxaphene. The former is a product of the

sparse, baits will probably give better results.

EARLY in the fall of 1948, officials in each of the three departments of agriculture of the Prairie Provinces commenced to lay plans for the attack expected in late spring or early summer of 1949. While the over-all approach is the same, campaign details necessarily differ somewhat in each province. As in the thirties, cultural practices are being stressed—early seeding; tillage; fallowing stubble land known to be polluted with eggs; and poisoning young hoppers on land being fallowed. These are essential to good control.

In Manitoba, where the species met with have laid their eggs mostly on headlands, ditches and similar places, and where vegetation makes early and rapid headway, it is not expected that much bait will be used. The government is making available to the municipalities the necessary chlordan, which the municipality will apply. Where a farmer may wish to treat a field or his whole farm, he will purchase the chemical from private sources and apply it with his own or rented equipment. Road allowances are to be looked after co-operatively, the government bearing the cost of the



A home-made grasshopper bait spreader in action near Pilot Mound, Man.

oil refining industry, the latter of the turpentine industry. Both contain chlorine. Both chemicals can be used in bait form, or as sprays or dusts applied to the vegetation on which the newly-hatched hoppers are feeding. Experimental work supported by the experience of a large number of farmers last season, would indicate that the sprays (or dusts) are likely to be widely used. They are less toxic to man or animals than arsenic, and they may be applied by using weed-spraying machines. The treated vegetation is effective as a killer for a week or longer; they give satisfactory and quick kills of grasshoppers; and they are relatively cheap—well under a dollar per acre for the chemical. While there is some contact effect, chlordan and toxaphene are primarily stomach poisons in that the grasshopper is poisoned by eating the treated vegetation. A reasonably good growth of vegetation is, therefore, necessary if satisfactory kills are to be obtained by spraying. If vegetation is short and

chemical, and the municipality the application. On a farm where treatment is applied to fence lines, headlands, egg-beds in pastures, drainage ditches, unfinished strips on land being fallowed, or single strips around a field to stop invading hoppers, the cost will be borne a third each by the farmer, the municipality, and the government. Municipalities, in the main, will use the turbine-type machine for applying the poison.

THE forecast map for Saskatchewan shows that the province is likely to have the worst outbreak experienced since 1938. Over two-thirds of the total area of the province is involved, covering about 40 million acres and 230 rural municipalities and local improvement districts. The worst part of the infestation is in the western part of the province where moisture reserves are almost non-existent and, for this reason, many people are of the opinion that there will not be enough vegetation to use sprays effectively

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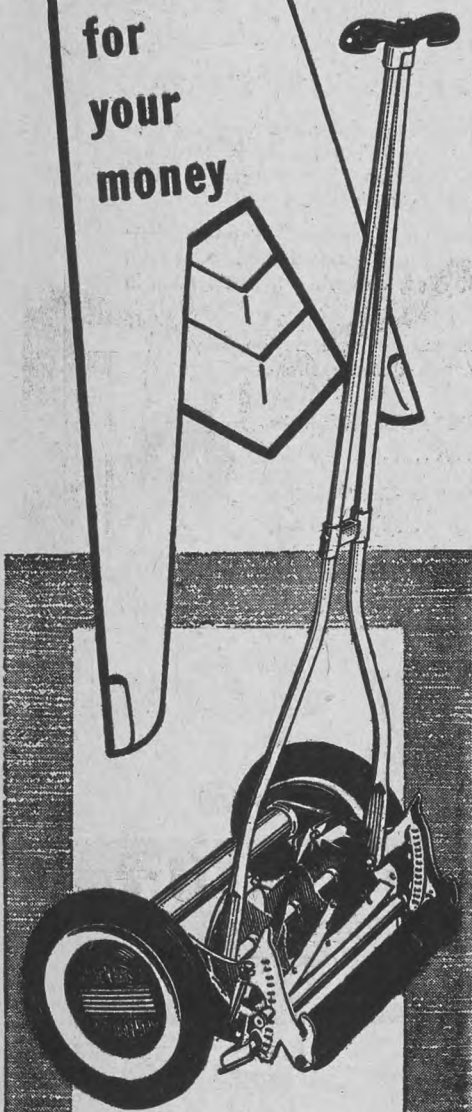
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when grasshoppers are hatching. Baits, therefore, are considered to be the basic type of poisoning that will be used and, as in previous campaigns, will be made available to farmers free of cost through their municipality.

The Saskatchewan Government is also taking steps to make chlordan sprays and dusts available at cost for those who wish to spray for grasshoppers. A drop in the price of chlordan, as well as bulk purchasing and distribution through municipalities will lower the cost to the farmer to around 75 cents per acre.

Because of the very dry fall and low moisture reserves, together with a grasshopper infestation, it appears that the seeding of stubble fields in the western part of Saskatchewan will be unusually risky in 1949.

Sawdust is being moved into municipalities during the winter in preparation for the spring campaign. Chlordan for spraying will also be in position before the campaign starts. Authorities in Saskatchewan feel that if farmers will go all-out this year in using recommended cultural practices and in baiting or spraying as their conditions warrant, grasshopper damage can be held to a minimum in spite of the area and severity of infestation.

A GREATER grasshopper outbreak is expected in Alberta this year than has been experienced for some time. In general, severe infestations are anticipated in the southern part of the province, extending in the north-easterly direction from Macleod to Medicine Hat, and then turning north along the Saskatchewan boundary to Township 9 to 40, including the town of Provost. South-central Alberta will also see some grasshoppers, particularly in the Drumheller-Rosebud area. Given ideal spring weather conditions for grasshopper egg hatching, about 2,000,000 acres of crop land are threatened.

The northern parts will be infested with the roadside grasshopper, hatching its eggs along roadsides, fence lines, pasture land and other sod adjacent to crop land. Early killing of young hoppers at these hatching places, before they start moving, will preserve crops at a considerable saving to the farmer in labor and expense. The southern portions will be infested with the lesser migratory grasshopper, which will be hatching for the most part throughout the cultivated stubble fields. Good cultural practices, coupled with a poisoning program must be employed here.

The warm, dry weather in south-central and southern Alberta that extended into late fall in 1948 will be very conducive to an early grasshopper hatch this year. As in Saskatchewan, much of the vegetation in the infested area consists of short grass. With only very light moisture reserves in this area, the grasses and other crops are expected to be delayed in development and growth. In other words, it is expected that there will not be sufficient vegetation to spray when hoppers hatch, with the result that baiting must be resorted to, if movement of hoppers to the field is to be prevented.

Alberta is making provision for the use of poisoned baits, sprays and dusts in its grasshopper control campaign. Chlordan will largely replace sodium arsenite and sodium fluosilicate as the active killing ingredient in baits. It will also be used in sprays and dusts.

The policy, with regard to the provision of baits in Alberta will be the same as in previous years. It will be made available to farmers free of charge through the municipality, local improvement district or a Special Area. The government will share the cost of such bait equally with these bodies.

Keen interest is shown by farmers in the use of chlordan as sprays and dusts, and much of it is expected to be used. The Alberta Department of Agriculture will supply municipal districts with chlordan in liquid or dust form, for re-sale to farmers at cost, less the cost of an equivalent amount of bait poison required for the same area. The municipal district and the farmer will share this reduction equally.

Many infested municipalities and other areas are at present buzzing with activity in preparation for the anticipated outbreak. This year the farmers will be prepared to strike the hoppers early with a new and an effective weapon. They are aware that timely treatment means the saving of crops.

THOSE engaged in directing the grasshopper control campaigns are frequently faced with the query, "Will not the hard winter have destroyed many of the grasshopper eggs?" The answer is, "No." One can be almost certain that in late May or very early in June plenty of grasshoppers will be hatching. The date the young hoppers may appear will depend largely upon climatic conditions. Hatching is hastened by a prolonged hot spell, which raises the soil temperature.

The sooner the grasshoppers are destroyed after hatching the more complete will be the control. This applies especially to the species that lay their eggs in massed areas, as along roadways, headlands, and in pasture fields. Poisoning should commence as soon as the majority of eggs have hatched and before the young hoppers are moving off to find new feeding grounds, usually the more succulent young grain plants.

Never before have more complete and better arrangements been made, with governments and municipalities co-operating to meet the grasshopper threat. Provision has been made by the provincial governments for ample supplies of the latest in poison. Moreover, this will be so placed that it will be available for use the moment the hoppers are ready to poison. Municipalities and farmers have better means than ever before to apply the poison, either as bait, spray, or dust. Farmers are only too conscious as to the damage grasshoppers can cause. Through a combination of cultural practices and the intelligent use of the new chemicals and poisoned baits, indications all point to a pretty tough time for grasshoppers in 1949.

EDITOR'S NOTE: The author, who is chairman of the Manitoba Weeds Commission, wishes to acknowledge information received from W. H. Horner, Field Crops Commissioner in Saskatchewan and from Wm. Lobay, Supervisor of Crop Protection in Alberta, as to the control program in these provinces; and also for helpful suggestions received from Dr. R. D. Bird, Dominion Entomological Laboratory, Brandon, and Professor A. V. Mitchener, University of Manitoba.

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(See page 67)

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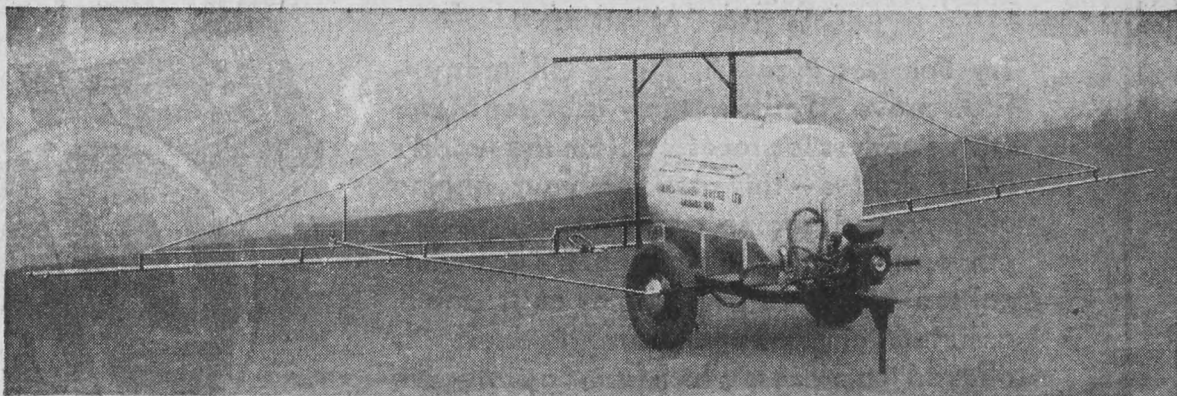
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**THE BRITISH AMERICAN OIL
Company Limited**

Pasture To Packer

Continued from page 15

commission firm—a firm that looks after the selling of the farmer's livestock. When the cars arrive they are unloaded by the stockyard employees and delivered to the pens allotted to the commission firm to whom they are consigned. After they are sold by the commission firm they are taken to the scales to be weighed. The weighmaster is employed by the public stockyard. However, before any man can be employed for this position evidence must be forwarded to prove that he is disinterested, and he must be approved by the government in Ottawa. When the livestock come off the scale the yard takes possession of them again, and delivers them to the new owner.

THE stockyard company at no time takes possession of the livestock. Their function is that of attending to the livestock when they arrive, delivering them to the seller, weighing them after the sale is made and then delivering them to the buyer. Their charges are for unloading, yardage, loading, feed and insurance. Their job consists only of providing a place where seller and buyer can meet, and facilitating the sale of livestock.

The sales are all private barter between commission salesmen and buyers. The livestock to be sold are herded into an alley in small lots and the buyer and seller attempt to arrive at a price that satisfies both. Both have the training and experience to judge both the livestock and the demand and supply picture in the market. The seller may also know that a particular buyer is attempting to get a large number of one class of livestock—bulls, for example. With this knowledge the seller will attempt to sell the cattle for a higher price. If the buyer wants them badly enough he will have to raise his bid. If he refuses the seller will call in some other buyer. Many buyers may have been through the alley before the lot is sold, but on the other hand the first buyer in may make a satisfactory offer and the lot will be sold on the spot.

The seller may not be satisfied with any offer that he gets in the market. He may have wide connections and can contact buyers a thousand miles away to see if they are prepared to make a satisfactory bid. Some of the commission firms have buying departments which take orders from a variety of buyers. An order may come in from a farmer who wants to buy a carload of 60 to 90-day feeder steers, or a truckload of feeder pigs or lambs. A fur farmer may want horses for fox meat. A concern in the United States may want many carloads of boner cattle. The commission firm will buy to fill these orders. Sometimes it buys livestock billed to itself. Often it buys elsewhere in the market. The Canadian Livestock Co-operative (Western) Limited has its regular selling department, but also has a buying department to attend to such orders. Its buying department gets no bargains dealing with its selling department. The two are quite separate.

Sometimes the Livestock Co-op will feel that the market in St. Boniface is rather low compared to Eastern or American markets. If this is so they

will "pool" some of their cattle—killer cattle in one pool and feeder cattle in another and ship to the best market. A substantial advance is made to the producer-owner. The pool is on the basis of one week's shipments, so at the end of the week the pool is balanced out and the final payment is made to the owner. Most of their livestock are sold locally, but the co-op watches other markets and will pool if there is a chance for a better price. They have pooled as many as 3,500 cattle in a week, and have frequently been able to get a somewhat higher price than was offered locally.

There is an important alternative to marketing through commission firms and the public stockyards and this is direct sale to the processors. At the beginning of this century most of the livestock was marketed through the yards. By 1939 direct marketing had grown again and accounted for 53 per cent of the cattle and calves, 65 per cent of the sheep and 83 per cent of the hogs purchased by Canadian packing companies.

There are several methods of direct marketing of livestock. Probably the most important is that of the farmer-drover or agency delivering livestock directly to the packing plant by carload or truck, and selling them directly to a packer's buyer. Packing companies have country buying stations to which farmers or ranchers can deliver their stock, or the packer's buyers will go out to ranches or farms and buy a load right on the place. A fourth method of direct marketing consists of auction sales at which the packers' buyers bid for stock.

ANY two people who are associated with the livestock business either as producers, agents or processors, are good for an argument as to whether livestock should be sold directly to the packer or should go through the yards. The farmer who supports it will argue that he can load his stock into a truck, run them into the packing plant, negotiate a price that he considers satisfactory and can usually get his money on the spot. He may also argue that it eliminates commission and marketing charges and usually eliminates charges for feed and water.

There are also strong arguments against it. The strongest, perhaps, is that it tends to eliminate competition in the market. The seller gets a bid from only one person. Even if he brings the stock in his own truck and goes from plant to plant he is not a specialist in selling so does not have full information as to the market and may not know exactly what the stock are worth. Also he is not aware of special demands. One company may be bidding strongly for small, well-finished steers and would be willing to pay some premium for this kind of stuff. If he does not know this he may accept too low a price. Added to this he has no knowledge of special demands on distant markets.

Another argument advanced against direct buying is that competitive prices are determined on the central market and are quoted from this source. If a large proportion of the livestock are sold directly the prices quoted from the central market will not give an accurate picture of the over-all trade. If at any time all livestock should be sold directly price quotations based on competitive bidding will be largely eliminated. This will make it difficult

for farmers to know just what their livestock are worth.

A further argument against direct selling is that all livestock sold to packers are sold for slaughter. Sometimes it would be better if some of this stock were sold for breeding or further feeding.

MANY producers feel that packers and livestock buyers are able to force down the prices they pay for livestock offered for sale. Is this possible? As a general statement it seems safe to say "No," and it seems perfectly safe to say that they are never able to depress the market very substantially. If demand is light and supplies large there will be price declines, but this is a response to the supply and demand situation. On a small market it is reasonable to suppose that greater pressures could be exerted. At the St. Boniface yards there are at present about 35 independent buying interests and on an exceptional day in a heavy buying season there may be over 100 buyers. This represents competitive bidding and if the buyers want the cattle they will have to pay the price. Add to this figure order buyers from other markets served by local commission firms and more competition is brought into play. Added to this the sellers have as much market information available as the buyers, so can make a close estimate as to the price market conditions justify. This much is sure—small buyers are quite unable to influence price. In the cattle market at the present time it is hard to suggest that anyone can depress the price, because if our prices go below a fair relationship with the prices in the United States our cattle will go to American buyers.

Who buys all the livestock offered on the western Canadian markets? Reference again to the St. Boniface stockyards reveals that in 1948 Canadian packing houses bought 134,412 butcher cattle, 51,234 calves, 69,179 hogs and 31,198 sheep. Local and outside butchers bought 77,756 butcher cattle, 37,241 calves, 23,164 hogs and 686 sheep. Country points bought 32,357 feeder cattle, 407 calves, 2,426 hogs and 3,012 sheep, chiefly for further feeding. The livestock that went east was also largely headed for the feedlot. It included 31,828 feeders, 2,386 calves, 703 hogs and 4,286 sheep. A large number also went to the United States including 45,529 butcher cattle, 34,268 feeder cattle, 10,535 calves and 10,540 sheep.

The movement of livestock from the farms, ranches and feedlots into the stockyards and packing plants is only a chapter in the story of the moving of meat and meat products to shelves of the retail stores and the tables of the consumers. Animals must be killed and graded; by-products must be saved for use in a score of ways; meat must be sold to local merchants or exported and shipped thousands of miles. Hides are sold, processed and made into scores of products. Bones will turn up as handles for knives, and some horns go the same way. Fertilizer is produced to grow more crops to feed more livestock. Some parts of an animal sold in western Canada may turn up in a score of markets in a hundred different forms in a dozen countries. Following all of the uses made of livestock and livestock products would involve a long and involved journey.

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Death In The Wilderness

Man and his rifle present only one of the fatal risks to wild creatures.

by JOHN PATRICK GILLESE

A RECENT news report from Crescent Beach, Florida, telling of the apparent "mass suicide" of 44 whales brings to my mind similar stories of death in the wilderness which I have encountered, or had brought to my attention, in the last twenty years.

The story mentioned above tells how the whales swam out of a rough ocean and beached themselves. The mammals ranged in size from seven to fourteen feet and, when towed back into the water again, dashed themselves headlong against the shore again in an unexplained fit of hara-kiri. Curators, concluded the news item, had seen the same thing happen in the past.

Suicide is probably even more foreign to the wilderness world than to our own, but at certain times and under certain conditions, nature's creatures will practise it. The "feel" of approaching death, for instance, causes the elephant to leave his fellows and wander for miles until he comes to some swamp. Stoically he walks into the morass until he is buried beneath the ooze. This strange quirk gave rise to the legends about the fabulous "elephants' burying ground," since not until a hunter followed one by accident had anyone ever found where the elephant went to die.

As a boy, I used to watch millions of suckers "running" up Alberta streams in the springtime, to spawn. Driven by an age-old ecstasy, nothing could stop the fish—not even death. Thousands of them would perish every spring trying to leap beaver dams and perishing on the jagged sticks protruding from the sides of the dam.

On the coast, too, I have seen silver salmon following the same driving call. Swimming upstream until they were totally exhausted, they would spawn their eggs. After that, nothing seemed to matter. Some would flop into shallows where they were easy prey for bears. Others would leap blindly out on sandbars and gleaming pebbles, threshing and flopping futilely until they were beyond reach of the water.

In the water world, eels also know the strange urge to mate and die. From English ponds and ditches, they begin their long trek to the deep waters of the Bahamas, when they are about eight years old. When they lay their eggs, they die. In America, eels travel far inland, but eventually they, too, start the long trek back to where they were born. Their path crosses that of their English cousins, but both have their separate courses; and when the young are born, they find their route back to where their parents started.

ASIDE from the annual hunting toll, death in many forms stalks the creatures of land and air. Sometimes they kill each other, often they meet with weird accidents, and occasionally their own weaknesses destroy them. In the last case, instances are recorded of trouble-shooting bobcats dying from festered mouths after tangling with the one taboo animal of the woods—the porcupine.

On a summer holiday a few years ago in the foothills country, I had the

unusual experience of watching two rattlesnakes battle it out to death. What caused the duel, I have no idea. Both snakes were old and big and completely oblivious of any other danger. When I came upon them, they had coiled about each other, till the two seemed one lumpy, writhing rope.

Suddenly one got free by the simple process—for a snake—of throwing his head backward and uncoiling himself, by twirling around and around, from the other body. Both snakes thrashed about in the weeds, then slithered towards each other again, hissing and rising in the air.

I was puzzled as to how one snake would kill the other. Then I saw the slightly smaller of the two poise and strike, his rattles going full blast. My expectation was that the other one was poisoned, much as a human would be if struck by the deadly virus. It seemed to have no effect at all, though. Maybe a rattler is immune to snake poison, or perhaps the attacker's fangs could not penetrate the scaly body.

The next move was up to the larger snake, and his tactics were obvious. He slithered alongside the first rattler again, and with lightning swiftness wrapped himself about his antagonist's body. He was able to so straighten out the first snake that it became almost helpless, only about six inches of its neck and head swerving wildly. The conquering snake proceeded to give the *coup de grace* by thrusting its own head inside or over (I couldn't be sure which) the other one's mouth, and undoubtedly chewing and poisoning.

Nothing animal or human has ever equalled that scene for gruesome horror. It lasted more than an hour, from time of my arrival.

BUCK deer, especially among the muleys, battle much more cleanly and for the ancient and honorable cause of love. The end is often tragic for both, however, since their horns become interlocked and death comes from broken necks. Settlers breaking the bush country often find the whitened bones, which tell the story.

In the bird world, some of the most thrilling battles of nature are fought between Great Horned Owls and their arch-enemy, the sharp-shinned hawk. The hawk is usually the provoker. Swooping below hills he invariably spots an owl dozing in an old dead tree, and immediately attacks. The hawk is quick and ferocious, but the owl has powerful beak and claws and plenty of courage—as any boy with a .22 will tell you. When the battle is ended, the owl eats the hawk.

As with humans, the carnal appetite of the wild gets its citizens into plenty of trouble, too. Most notable offender is the eagle who will feed upon carrion and offal until he is unable to fly. Even then it takes a staunch and hungry enemy to tackle him, usually a bobcat or a hungry bear.

Creatures of the wild, as with us again, pay a large toll in lives through accidents each year. When the snow in the north country is deep, deer will take to the windswept ice of the

river. Occasionally they will break through the thin ice of a beaver dam and perish. Lazy fish will linger in shallow river pools until they find themselves trapped in stagnant water. Every trapper has come across a rabbit, sometimes a coyote, impaled in a spear of wood protruding from some lightning-blasted pine; these fleet animals generally look behind them as they race, instead of ahead.

And on this continent you can count in millions the numbers of small game destroyed by speeding autos, especially in the wooded sections of the country.

Death by lead poisoning isn't reserved for western badmen. A survey conducted in the United States frightened the directors of Ducks Unlimited. Biologists flight-trapped ducks by the thousands, X-rayed them and found the percentage carrying shot in their gizzards almost unbelievable. Ponds, lakes and marshes are literally full of shotgun pellets, which have accumulated after years of shooting. The ducks eat the pellets with their food and many of them die.

Unfortunate choice of breeding grounds means the end of much more wild life. Oil-polluted waters and floods—caused by our forest-stripping during the war—take their toll of waterfowl, while on the prairies of Saskatchewan, millions of nests of Hungarian partridges are plowed under every spring. A friend of mine from the prairie related how, on three sections of land, he had plowed under countless hundreds of mother birds, which refused to leave their eggs.

Probably one of the top-ranking killers of small wild life in the nation is the one you would least suspect—

your favorite house cat. Kitty may purr by the hearth all day, but at night he is a primitive prowler, taking an enormous toll of song birds, and such game birds as pheasant and partridge.

CONSERVATION authorities claim that there are over three million homeless cats wandering the woods and countryside of America, and when I was plagued with them on my own trapline, I once tried to figure out how they got there. Number one reason was kindheartedness on the part of men, who, rather than kill kittens, would tie them in a sack, drive out in the country a few miles and let them loose. Others wandered away from bachelors' dwellings and from farm homes. City home-owners contributed their share by gently letting pussy back into the wilds when he was too big, or too rough for the baby, or they had to move to a suite where the owner didn't like cats. It was no wonder that trappers in Alberta were reporting as many as 20 "wild" cats to the square mile.

These felines revert quickly. They are well able to forage for themselves, are much sleeker and fatter than domestic cats. When they breed in the wild state, they revert, both in stature and ferocity, in a couple of generations until they are a dangerous animal for any man to corner. In a single year's time, each cat will account for as many as thirty game birds—an enormous toll in the aggregate.

In the wilderness, death comes quickly, strangely and generally unexpectedly, and though nature's creatures have much sharper wits than ours, their mortality rate is also much higher.

Income Tax

Continued from page 7

Even after his crop is harvested the farmer can still take a beating. Not only is he faced with heavy costs for his harvesting operations, but he has to pay to transport it to the elevator, and in areas which are located at some distance from the railways these costs eat deeply into the profit.

SINCE we have had the Wheat Board and the long-term contract the fear of sudden price fluctuations has abated. But the farmer still wonders what is going to happen next year. Is he suddenly again going to find that when it comes time to market his crop prices have dropped well below the cost of production?

Then take the question of education. The tendency to get rid of the little red schoolhouse in favor of composite and consolidated schools has added to the farmer's costs. Besides the very considerable school taxes he must pay he finds himself confronted with transportation costs, often with board costs for children who live in dormitories or in town. One thing is certain—it costs him more to educate his children than it does the white-collar worker living in the city. Nor does the farmer's boy or girl usually get the same class of instruction or do they have the same facilities.

It is true that the farmer does get some allowance for his car. But a car is no luxury as far as the farmer is concerned. He uses it to run around the farm. It carries cream cans, sacks of feed, machinery parts, as well as


groceries. And more often than not when he goes to town he pulls a trailer to take livestock to market, or to bring lumber, gasoline, feed or seed home. Not only is the farmer's car used often as an auxiliary truck, but it must use roads which are as different from city streets or main highways as day is from night. The farmer's car wears out quickly and his repair bills are often staggering.

Clearing and breaking land is an expensive proposition today. And many farmers have tried to increase the productive capacity of their farms by bringing more land under cultivation. But can he deduct the cost of this from income as an expense? Not a bit. This, say the income tax authorities, is a capital improvement, and must be paid for out of income.

Engaged in a business in which risk is the senior partner, the farmer can't balance his winnings against his losses. When he wins, he pays. When he loses that is just too bad.

Not trained to keep books he finds he is penalized for every mistake he makes. And even when he is allowed to average his income over three years as he can at present, he finds the trouble of keeping the books necessary to do this almost too much for him to cope with.

The white-collar worker who thinks the farmer is getting away with something would be surprised if he knew just how little the farmer can get away with. He might be surprised at how many farmers would be glad to trade places with him. And it is doubtful if any of the white-collar workers would be willing to trade.




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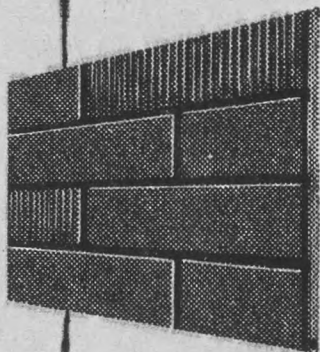


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Disappearing Landmarks

The Wood Mountain Post, which dispensed law in southern Saskatchewan, will soon become a memory only.

by C. E. CRADDOCK

IT is quite a number of years ago that a group of men struck out to bring law and order to the great plains of the West. They were the Royal North-West Mounted Police. It was a tough adventure, but they became established, much to the disgust of the disorderly element and many of the Indians. However, by their fair and efficient administration, they built up a reputation second to none. Ports were established at many widespread points, one of which was Wood Mountain, situated about 100 miles south of the present city of Moose Jaw, and some 30 miles from the Montana line.

As the years passed, ranchers settled in the country, and of course horse and cattle rustling followed in their wake. The original post has long since passed away, and the second one, the subject of the pen sketch shown here, has also vanished. When I left Wood Mountain in 1921, some of the buildings were still standing, but today there is little to show for the existence of the "Old Wood Mountain Post."

This detachment was situated on the edge of a large flat surrounded by hills with poplar and willows in the coulees and along the creek. This creek passed to the west of the post, swinging to the north to run into the 12-Mile Lake. The site was distinctly picturesque, with a group of buildings to the northeast which constituted the old Ogle ranch. After Moose Jaw was established, a government telegraph was run to Wood Mountain, and then east to Willowbunch where another detachment was later set up. Southeast from Willowbunch was the Big Muddy post, right on the border line.

To the west of the post was the Indian reservation where the remnant of Sitting Bull's bunch lived. In those days Inspector J. C. Richards was the commanding officer, better known as Old Jack. He was a stern disciplinarian, and his men could hardly be said to be enamored of him, but would freely admit that he was a real policeman. He was tough, too, and scared of nothing—a typical Mounted Police officer. On one occasion he drove 30 miles in winter with three broken ribs. Driving into a ranch for dinner, he ran into a washout filled with snow, his buckboard was upset. He was thrown out, but would not relinquish the lines, and so got under the wheels.

Those were good old days at that, possibly because we did not know any better. I remember a dance given by

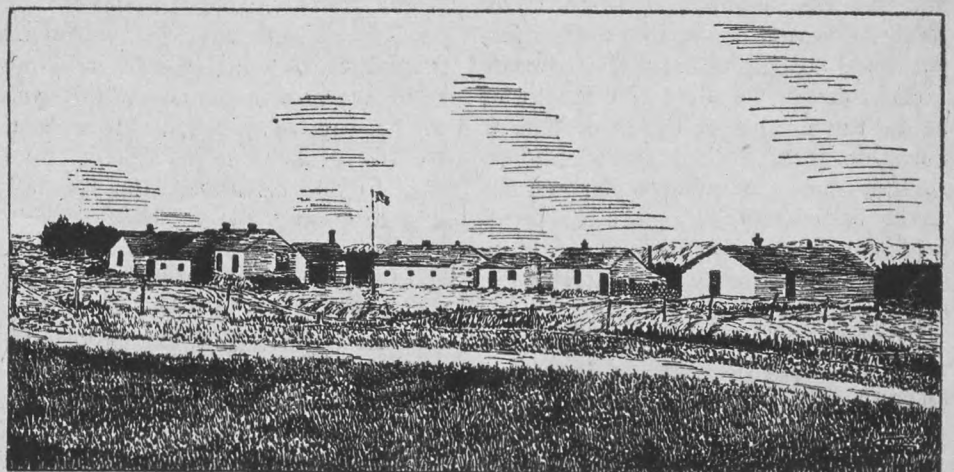
the police. People came for miles through the snow. There was a good crowd. I can still see Old Jack, resplendent in uniform, having just finished a square dance, going round the barrack room with a serviceable tea cup, a water pail of lemonade, and perspiring profusely, some of which landed in the lemonade.

It was getting towards morning and the Home Sweet Home waltz was coming up when it was noticed that hardly any of the police were present. I had been sleeping on the cook's bed in the mess room, and had heard some of the boys talking about it as they prepared to saddle up. They had received a tip that a bunch of rustlers were taking advantage of the dance to get in a little bit of their nefarious work, so the police had to leave in a hurry after dancing all night.

Another official at the post was the government vet. His job was to inspect all stock coming in from the States. Horses came in large and small bunches as it was a port of entry. Also cattle, and at times sheep would pass through in flocks numbering several thousand head. The main test for horses was for glanders.

The buildings of the post were constructed mostly of local materials, that is poplar poles and mud on the old Red River frame system. Upright poles were set in the ground at varying spacings, and short lengths of poles dropped into slots on the uprights, then the walls were stripped diagonally and about six inches apart with willows or small poplars, and the whole covered with a mixture of clay and chopped hay, and when dry given a coat of whitewash, also a local product. This clay was found as an outcropping in many localities, and when mixed with water made a good wash to fill the cracks in the plaster, leaving the wall a snowy white. Lumber for floors and roofs together with shingles and windows had to be freighted in.

There was one exception. The O.C.'s quarters and office (the building with the small lean-to just to the left of the flagstaff) was of lumber. This was burned down about 1908 or 1909. The buildings were, first, the long structure on extreme right housed the government vet, trial room and bird cage; next was the barrack room, coal shed with a small root house between it and the stables. Next, the blacksmith shop with open doors, with the Q.M. store and mess room



The author's sketch of the old Wood Mountain Post in which he served.

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behind the O.C.'s quarters as seen on the extreme left.

THE trail in the foreground led to Moose Jaw and was known as the "Old Pole Trail" on account of the telegraph line. It was a dreary trip and the telegraph line seemed to accentuate this. There it was, stretching ahead beside the trail day after day. Later, when settlement got started, this was the main trail, with the Willowbunch trail to the east serving a similar purpose. Many horses and oxen were worn out on these trails.

Naturally many incidents occurred even in those days . . . comic, dramatic and bordering on the tragic. The boys from the barracks were at our place almost every day, and when stuck I used to cut their hair. On one occasion, when several of them were up, Constable Petty said he'd like a haircut. I asked him how he would like it cut, and he said "off," so I did just that, not even leaving a stubble. The other boys looked on with solemn faces. When through, I handed Petty the mirror. He took one concentrated look and with real emotion loosed an exclamation which had best not be printed. That did it. There was a general laugh and poor Petty left in a hurry. On arriving back at barracks he went to the office and Inspector Tupper, who was sitting at his desk, turned around, got one glance and hurriedly resumed his work while he got his features rearranged.

Well, those boys are scattered now. Some have gone on the "Long Patrol" but memories of the old post will still linger.

Blueprint

Continued from page 18

Agriculture Minister Frank Putnam told the legislature that the farmer as a class is getting pretty fed up with things. He pointed to the concessions won by organized labor and compared them with the plight of the farmers who were continually being penalized. The margarine issue was a case in point, said Mr. Putnam, who added that dairymen were poorly rewarded for their production of butter, and now they were being deprived of what little protection they had.

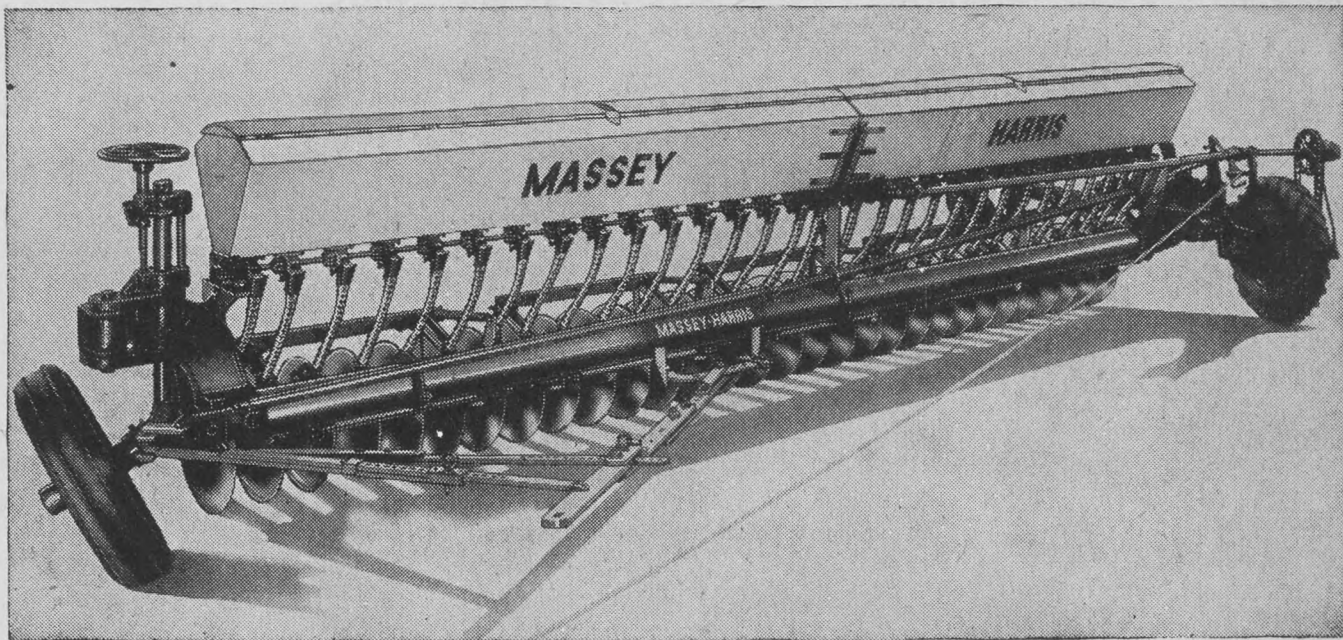
But agriculture is making progress, and this was demonstrated at the recent natural resources conference in Victoria where the province's experts on such matters as soils, irrigation and farm production presented their story. The story may not be an entirely happy one, but it is realistic. An honest effort is being made to get at the fundamental facts and that represents an advance.

Agriculture has been an important primary industry in B.C., despite the fact that only a maximum of four per cent of the province's surface is ever likely to become improved land. Last year there were over a million cultivated acres, or about one acre per person. Each cultivated acre produced approximately \$130. The province does not begin to feed itself, notwithstanding a surplus production of tree fruits, small fruits and eggs, which are exported.

When more data pertaining to agriculture's possibilities becomes available—some four to seven million acres can be developed—the province will be able to initiate a long-term program more intelligent than any of the past.

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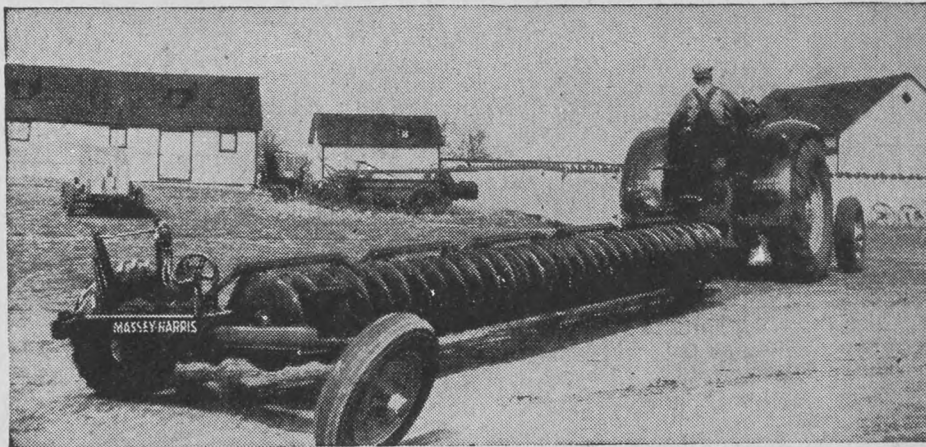
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The Nicked Edge

Continued from page 10

needed to convict Mike Dutton of murder.

They would bring Mike in for trial, then they would take him down to the McNeil Island prison and hang him. Pete decided that there was no hurry. Trapping season was ahead, and he wanted the tough customers to decide on their trapping grounds, and to have them pack in their traps and supplies before Old Man Endicott and Mike Dutton were out of the Mink River country picture. Otherwise some of them might decide to move in and give him trouble. Just before the freeze-up, when the streams were low, was about the right time.

HE arrived at Cold Deck early one morning for a few drinks, and to stock up with sugar, coffee, flour and bacon. He was a bearded, dirty brute whose clothing smelled of stale moose tallow, campfire smoke and dried salmon. He tossed several wolf pelts on the trader's counter and called off his needs. Then he went over to the marshal's office and asked Dan Murdock if there had been any new trapping regulations issued. "A man can't afford to take chances," he explained. "Sometimes he's so far in the back country he don't hear about the new rules. Friend of mine come in with thirty beaver skins one spring. Then he learned his part of the country had been closed to all trappin'."

"Where are you trapping?" Murdock asked. He was a blondish fellow, with a friendly smile and very blue eyes. Very keen eyes, too, but Laird failed to notice that. His idea of a marshal or sheriff was a man who was surly and scowling and whose right hand was never far from a gun butt.

"I trap south of the Mink River country," he said. "Old Man Endicott and Mike Dutton have got that country sewed up. They're always fightin' and folks expect 'em to bust up, but they never do."

"I've met them both," Murdock said. "Fine fellows. The old man hasn't long for this world, and he's in pain much of the time, and rather trying, I imagine, but Mike Dutton is very fond of him. Their quarrels are passing squalls—always followed by long

calms. As to your question—there are no new regulations."

"Thanks. Glad to've metcha," Laird said, leaving.

The marshal opened the window with a relieved, "Whew! What that fellow needs is a bath—clothes and all. And he didn't call to find out trapping regulations. He wanted to size up the new marshal. Well, a natural impulse, particularly if a man has something up his sleeve, like cache robbing or trapping in a closed area."

Mike Dutton came in a few minutes later with a cheerful, "Trying to toughen yourself up, Dan? Why the open window on a raw day?"

"Pete Laird just left."

"Oh! Pete! That explains it," Dan said. "What's on his mind?"

"Wanted to know about trapping regulations."

"Did eh? He must have gotten religion or something," Mike commented, adding generously, "Pete's all right in his way, I suppose. Lazy and careless. He has a log running across a creek near his home. I'm about Pete's weight, but I'll wade the icy stream rather than cross on his rotten log. Why, when he crosses, sometimes hunks of rotten wood drop off on the under side—and all he'd have to do is drop another tree. Just thought I'd tell you so if you're up that way, you'll wade the stream instead of risking a broken leg. It's a wonder his shiftlessness hasn't been the death of him."

"Some of these days he'll break a leg and we'll have to go out and pack him in," the marshal said. "How're you and the old man making out?"

"Oh he built a fire under me yesterday afternoon," Mike answered. "I pulled my freight before I lost my temper. He needed baking soda any way, so here I am. He'll have cooled off by the time I show up."

Mike Dutton visited a while, made plans for a trout fishing trip with the marshal, then said, "Well, so long. And don't postpone the fishing trip. If we got an early freeze-up, you'd be out of luck. It's a good stream, but you can slip on glazed boulders and break your neck without half trying."

At the trader's, Mike told the trader the story of the blow-up, picked up the mail, shoved the baking soda into his pack, and headed for the Mink River country. Pete Laird followed half an hour later.

Laird's cabin was on Mink River,



"Are you sure this is the same bowl we used last time, dear?"

but in the open country, seven miles downstream from the Endicott cabin, which was at the southerly end of his trapping area.

Pete began his preparations by sharpening his axe. He was going to need a very sharp axe, because he expected to work fast. When the job was done he began looking for nails. He searched the cabin awhile but was unable to remember where he had put the tin can filled with various size nails the last time he had used them.

His old food cache, which had fallen when the supports had rotted away, was full of nails. He couldn't find his claw hammer so he began chopping out a section of timber studded with large nails. "Wish I knew where that damned hammer was," he muttered. "Have to chop mighty close to a spike. Oh hell—I'll prob'ly miss it."

Three strokes later the axe was slightly deflected by a segment of wood, and the blade cut the spike neatly in half. Pete Laird swore, then looked at the blade. A deep niche broke the axe's keen edge. "Aw well—" he grumbled. He finished the job, carried the wood to his cabin and burned it. He panned the ashes and reclaimed the nails. They weren't quite as strong as originally, but they would serve his purpose.

HE didn't propose to leave tracks on his side of the river for some snooply posse to follow to the Endicott cabin, so he crossed the stream in his leaky skiff, poling it up a sluggish creek until it was concealed by tules. He put on moose hide moccasins, fearing his boots might leave a nail pattern somewhere to betray him. There was a slight hole in one moccasin near the heel, but he hadn't gotten around to patching it.

The ground was frozen in spots, and this was rough on his feet but the stake, he reasoned, was worth the discomfort. A man had to endure some things, he reflected. He was well pleased with himself for he had planned carefully, leaving nothing to chance. His father, he decided, would have conceded his thoroughness.

He was tired when he arrived at a point opposite the Endicott cabin. He was wet from the knees down, but his body from the knees up was dry. He removed his wet pants, underwear, socks and moccasins and hung them up to dry, then got into his sleeping bag. He would liked to have built a fire, but smoke would have brought Mike Dutton across the river in a hurry.

Pete Laird put in a miserable night, sleeping, then waking suddenly for no reason other than his nervous tension. A small creek fed Mink River and he followed this early the next morning for a half mile. He located several dead, dry trees and cut them, confident the distance and the steady roar of Mink River would muffle the ringing of his axe.

He floated the logs downstream to a sandbar, arranged them in the shape of a light raft and nailed them together. It supported his weight nicely when he tested it. He was ready. "Ain't missed a bet," he mused. "Now for them to get into a fight."

He spent two days in a thicket opposite the cabin, waiting for an explosion. It came at breakfast time on the morning of the third day. The door opened and an angry Mike Dutton emerged, ducking. He looked back in

time to stop a heavy frying pan which the old man had hurled. It struck Mike above the eye, bounced, leaving a smear of sourdough flapjack batter on his cheek.

Pete Laird couldn't distinguish what Mike was saying, but it wasn't hard to guess. Mike stood there a moment, then in a towering rage, caught up a club and advanced on the old man framed in the doorway. Then he shrugged his shoulders, threw the club away, and brushed past Endicott.

He came out a few minutes later carrying a heavy pack. Without a word he started upriver. His purpose was obvious to a trapper—he was taking advantage of the occasion to supply the shelter cabins along the trap line.

LAIRD crossed the river half an hour later. He gave Mike Dutton ample time to get beyond calling distance should something go wrong and Old Man Endicott started yelling for help. The raft cleared the fast water without overturning and lodged against two boulders ten feet from shore. He waded to the bank in hip-deep water, then approached the clearing. He hesitated once, thinking, "Mebbe I should have tied the raft. Still—it couldn't work loose from them rocks."

He made his way to a thicket a hundred feet from the cabin and studied the situation. A light tap with the heavy part of the axe would be enough to drop Old Man Endicott in his tracks. Then he noticed the frying pan. It hadn't been touched since it had bounced off of Mike Dutton's skull: That would fit in perfectly with his purpose to turn suspicion on Dutton. An hour elapsed before Endicott came out of the cabin with the water bucket in his hand. He glowered at the frying pan and muttered something Laird didn't catch, then he went on to a small creek emptying into the river. It carried no glacier silt and was much better for drinking purposes than the river water. When Endicott bent down to fill the bucket, Laird stepped from the thicket and caught up the frying pan. He crouched behind the wood pile, and when Endicott was passing, leaped up and struck.

The old man dropped, and the water bucket overturned. Laird watched him for several seconds. "One blow *was* enough," he said. He dropped the frying pan and picked up the bucket. He carried it into the cabin and put it on a wooden shelf where ring marks showed that it usually stood. He found a pair of Mike Dutton's boots and put them on.

He reasoned that a man of Mike Dutton's type would be instantly filled with remorse. This would be followed by fear, and he would then take desperate measures to conceal the body. Laird stood near the body and looked quickly about for a logical hiding place. The thicket immediately came into his range of vision. He wanted to leave a faint trail—something for the marshal to follow. The trail must look as if the killer had tried, but failed to conceal his tracks. He dragged Old Man Endicott a few yards, then carried him, then dragged him.

He left the body near the thicket, hurried to a shed and brought back a shovel. He cut the sod and rolled back a piece seven feet long and four feet wide. It was thick sod, and by work-

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72-T

ing the shovel under it carefully it could be rolled like a carpet. Then he started digging. A few inches below the surface, he struck a tangle of roots. He was glad his axe was sharp because the roots were moist and tough.

Laird chopped through them and lifted them out, then he went down three feet. He was going to roll the body into the grave when he remembered a man filled with remorse would likely wrap the remains in a blanket. He ran to the cabin and pulled a four-point, red wool blanket from a bunk.

Laird wrapped Old Man Endicott's body in the blanket, and rolled it into the grave. He shoveled in the dirt, put the roots in then covered them. He carried the excess dirt to the river and dumped it, then replaced the sod. "Job's done," he muttered, satisfied. He left the boots in the cabin, put his moccasins back on and returned to the raft.

THROUGHOUT his commission of murder, Pete Laird had either walked in the water or upon grass. He had carefully avoided anything that would hold a moccasin print. While wearing Mike Dutton's boots, he had made it a point to leave something of a trail to follow.

The raft was stuck and Pete tried to wedge it free with the axe handle. When it was on the point of snapping, he waded ashore, cut a small tree and used it as a pry. The raft floated free and Pete clambered aboard. He secured the tree to the raft, as it might attract attention, and floated past the cabin.

He looked at it with greedy eyes, wondering how long it would be before he moved in. Near his own cabin Laird cut the tree loose and began working his way to the bank. He stranded the raft, knocked it apart, cut it into fuel lengths and carried the wood to his cabin. He poured a stiff drink of white mule—a potent alcoholic beverage he had made—then sat down. He felt weak and nervous, then the alcohol took hold and a sense of elation gripped him. "Now all I have to do is watch things happen," he said.

Things happened two days later when Mike Dutton came into his clearing, shouting, "Have you seen anything of Endicott? He's gone."

One of Mike's eyes, and the flesh on

the skull was black and blue. His face was covered with several days' growth of whiskers. The black stubble, and his soiled clothing, lent him a tough appearance. It was obvious he had come in from the trap line cabins, discovered Endicott was missing, and had immediately headed for Cold Deck.

Pete Laird had planned for some such incident, knowing that it would transpire and likely be the first of several. "Maybe he wandered off," he said, "he was gettin' old."

"He isn't the wandering kind," Mike answered. "If you haven't seen him, something's wrong. He'd 've passed this way if he went to Cold Deck. Hang around, search parties may be needed. We'll want every man who knows this part of the country."

"I'll be right here when I'm needed," Laird promised.

The marshal and a fair-sized posse came up-river the following morning, and Pete Laird was ready to join them. "It looks bad for Mike Dutton," a miner said. "Anybody can see he's all bunged up from a fight with Endicott and now the old man's disappeared. Nobody's seen hide nor hair of him."

Two men left the posse near the Endicott cabin, and searched a log jam and river-bar where the bodies of animals drowned in the river often stranded. They reported nothing. "Now let's get this straight," the marshal said. "You, Dutton, came back after one of your rows with the old man. You found the frying pan in the yard where it had landed after hitting you?"

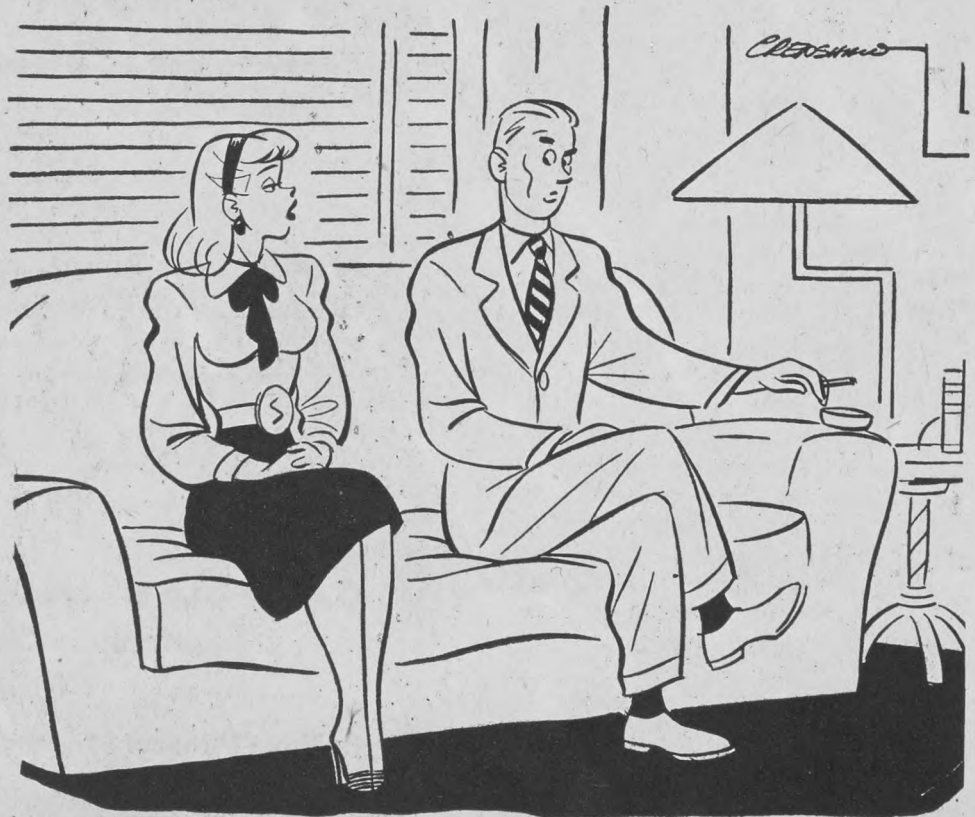
"That's right," Mike answered.

"Then you went into the cabin and found the stove cold—"

"The stove cold and the dishes we had eaten off of that morning hadn't been washed," Mike said. "To me that proves he disappeared before another meal time. He liked his meals on time. I called, looked around for tracks, then went into the cabin again to see if his rifle, sleeping bag or pack sack were missing. Nothing missing except the old man."

"You fellows stay here, all of you," the marshal ordered, "and let me examine the ground."

While the men sat down and smoked, the marshal walked slowly around the cabin, eyes noting details,



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Winnipeg Vancouver



many of which were unimportant. "Hmmm!" he said at last. "Someone dragged something here. Almost missed it, but there it is. Now a man carrying a heavy object makes a bee line for his destination—"

Pete Laird's heart began to pound. He hadn't thought of that, but now realized he had gone in a straight line. The thicket was straight ahead. The showdown was coming sooner than he expected. The marshal didn't hurry, but looked for clues as he slowly approached the thicket.

HE motioned the others to join him, then pointed to several boot prints in the muck. "My guess is, we've found Endicott's grave, boys," he said. "You can see an effort was made to do a good job—cutting and replacing the sod. But time, and the elements haven't yet destroyed the evidence." His eyes wandered over their feet. "Mike, that's about your size, isn't it?" He pointed to the footprint. "Step alongside of it."

Mike Dutton made a print beside the old one. "The size is the same, but the nail pattern is different," he said.

"A man could change his boots after a crime," Dan Murdock said. "Laird, go to the cabin and bring back every pair of boots you can find."

Pete Laird felt like cheering. He returned quickly with the pair he had used in the crime. "These was in plain sight," he said, "and kinda messed up with clay."

The marshal took one and pressed it in the muck. "Your boot print, Mike," he said. "Get shovels, boys, and we'll dig. Mike you're under arrest. Two of you boys keep an eye on him."

"Hell!" Mike exploded, "You don't think—"

"That's exactly what I try to do, Dutton," the marshal cut in, quickly—"think."

THEY dug slowly, carefully, uncovered the roots and threw them aside. Then they came to the four point wool blanket, now smeared and dirty with muck. "Here's Old Man Endicott at the end of his trail," Dan Murdock said quietly. He helped the others lift the body from the grave, then carefully unwrapped the blanket. "You said, didn't you Dutton, that when he hit you with the frying pan there was a flap-jack in it?"

"Yes, a big one, that had just started cooking on one side. It wasn't ready to be turned yet. Some of the dough smeared my hair."

"Some of the dough smeared Endicott's hair, too," the marshal said. "He was hit by the same frying pan and same dough."

The others grew wrathful and scowled at the nervous Mike Dutton. "I didn't hit the old man," Mike protested. "I wouldn't, but it sure looks bad for me."

"You ought to be strung up," a man growled.

"As undoubtedly he will be if guilty," the marshal said, "but let me remind you, he is innocent until proved guilty. Never forget that for a minute. Take him to Cold Deck, boys, and lock him up. I'll be along after I've looked around. I may have missed important evidence."

As Pete Laird followed the posse as far as his cabin, he kept asking himself, "I wonder how long it'll take to try and hang Dutton? I wonder how long before I can move in?"

He had the coffee pot on and holes punched in a tinned milk can when the marshal came along. He had even washed his hands and face. "Coffee?" he asked.

"Thanks," the marshal answered. "And while I'm drinking it tell me what you know of the quarrels between Endicott and Dutton."

"I don't know much, except the old man was ridin' him hard a lot of the time. Dutton just lost his temper I guess. Don't think anybody blames him much, but still—murder is murder."

"That's right," the marshal agreed. "Thanks for the coffee. I'll be up again as soon as I talk things over with Dutton. If I need you I can call on you?"

"Sure, any time. Glad to testify," Laird answered.

Several days later he awakened to find his cabin surrounded by a posse, and Dan Murdock was saying, "Well, Laird, time's come. I need you."

Pete Laird hesitated, then he came out. "What's the charge?" he asked.

"First degree murder—the pre-meditated killing of Old Man Endicott," the marshal answered.

"Hell! I don't know nothin' about his killin'. I figgered it was Dutton. Why—"

"Anything you say may be used against you," the marshal reminded him.

Pete Laird grew silent. Now he noticed a posse member had his axe and was looking at the nick. "That's funny," he thought, "I didn't use an axe on the old coot, I used the fryin' pan."

WHEN they arrived at Cold Deck he noticed Mike Dutton was waiting in front of the marshal's office. "You see, Laird," the marshal explained, "I was fairly sure from the first that Mike Dutton wouldn't kill Endicott. He can get fighting mad, but he isn't the killer type. He has an Irish temper right enough, but he controls it. As for you? Well, Mink River trapping grounds looked mighty sweet to you, and there I had my motive. Then you helped me along."

"How?"

"Various ways. You were a little careless a couple of times. Remember when I sent you for Mike's boots. You didn't bring 'em all, you brought the pair that fitted the prints. You knew. But the real evidence that connected you with the killing—" He stopped and thought it over. "You might as well know it, because you have no defense against it. You nicked your axe! Remember?"

"Yeah, it struck a nail," Laird answered. He might as well admit it because anyone could see the nick in the blade edge.

"Well, when you dug Old Man Endicott's grave and cut the roots with the axe, the nick left a mark on every root," the marshal answered. "I checked on the Endicott axe. There wasn't a groove in the blade. And then—I checked on yours."

There was guilt in Pete Laird's sudden collapse. He managed to stand with an effort, and his legs when he walked were like rubber. He could hear the judge saying, "—hanged by the neck until dead! Dead! Dead! And may God have mercy on your soul."

And he could hear his father's tired voice warning, "Pete, your carelessness will be the death of you yet."

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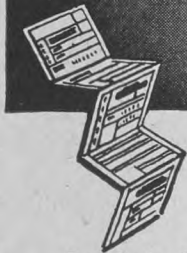
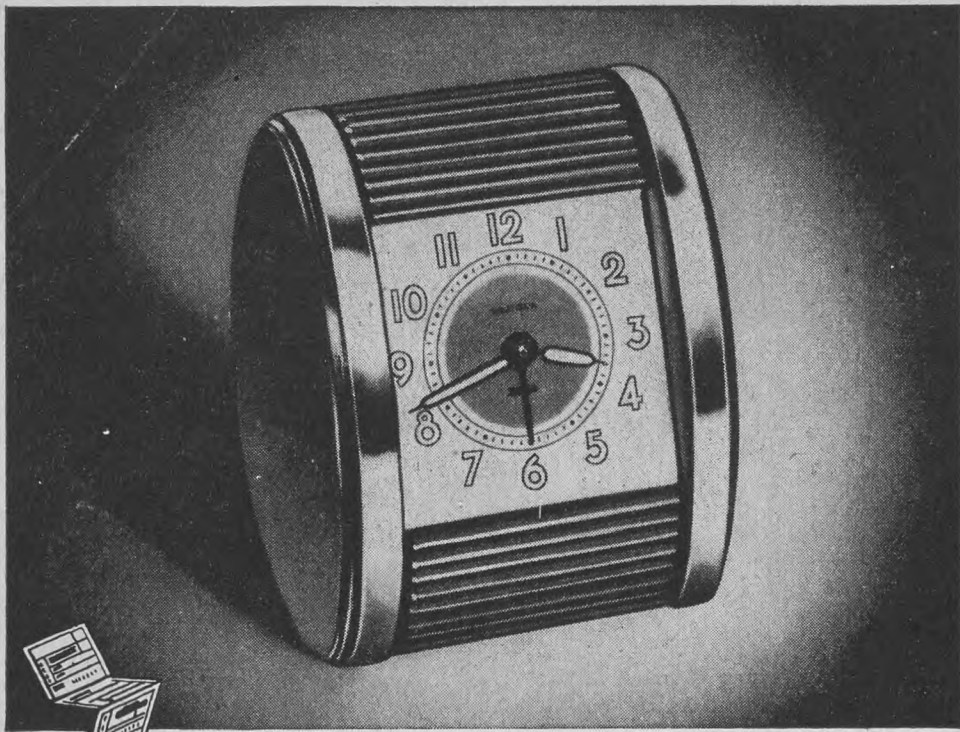
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An Indoor Watercress Pond

Greens for salad or garnishes the year round by means of this simple idea.

by G. E. EDWARDS

As a supreme attraction, the wide glass bowl set in the centre of the supper table was filled with watercress. I stared at it, almost unable to believe my eyes. Later on, perhaps by the middle of July, it might be possible to gather watercress from a specially prepared (and strictly guarded) small pond; but two unhappy experiences had taught me the difficulty of combatting ducks, geese, and wild rabbits when any of these made up their mind to a cress diet. They fed: I did without.

My hostess caught my eye and smiled. "You must take Mrs. George to see my watercress bed," she told her husband. "I feel sure she will be interested."

The evening was a damp one; so when he obediently approached where I was sitting after supper and suggested carrying out his wife's instructions, the natural inquiry was, "Is it far from the house?" Great was my surprise when he replied, "Oh, it's only upstairs," and led the way to the door of the sitting room.

The upper passage of the Mordaunt's house was lit by a dormer window at the south end; and even as we came up the stairs I could see a mass of greenstuff stretching out and across in front of it. It did not need Lewis Mordaunt's words to assure me I was looking at the source of our late salad. And what a bed it was! They had utilized the full width of the projection by fitting a board shelf across it on a level with the inner sill, and what appeared to be a duplicate-size tray of galvanized iron, some three-and-a-half inches deep, rested on top of this shelf. The galvanized iron receptacle was filled with a mixture of earth and small pebbles to within half an inch of the top and the whole thing flooded with water in which quantities of watercress plants were growing luxuriantly. In fact, just at that particular period the growth was so thick

that the sprays almost looked matted together.

"My wife's watercress pond," said my host, introducing it with a wave of the hand. "In confidence, I may tell you she is uncommonly proud of the notion. We grew watercress there right through last winter—and it tasted remarkably good when the weather was at its worst. Of course she has to replenish the water supply every so often; and I think she will tell you that sometimes she adds just a touch of fertilizer to it. Soil and stones seem to make the right mixture for the plants too. She began by using all mud, but that got sour. Now, there's no trouble of that sort at all. The worst feature is that it takes a long time to get properly started; but once the plants begin to run, begin to put out those little white roots at every joint... well, all your troubles are over. And as soon as a plant has reached the end of its growth and the last little shoot has been snipped from it, Jean digs out the roots with, I believe, a bodkin and drops another seed or two in its place. So the watercress bed is never empty."

"Naturally we don't eat watercress every day," Mrs. Mordaunt told me later, "but my 'pond' has proved a veritable success in raising a certain quantity of raw green-stuff during those months when fresh salads are so difficult to procure. It's hard to make use of a dormer window; but when I discovered a working tinsmith who would make a huge tray to my measurements, I felt sure the passage window could be turned to good account. Nowadays, watercress grows there all the time, summer and winter alike; though of course twice a year I take the tray out of doors and discard everything—cress, soil, stones, everything—and start right over again with fresh supplies. In that way the pond keeps sweet and the green food is irreproachable."



Spring is a-coming and with it the massed beauty of blossoms.

[Photo: Nat. Film Board]

The Countrywoman

Capacity

All night, past twelve and one and two,
High above the city the great geese flew,
Honking their wedged way North.
And all the little cuddled birds, through
Feathered sleep, heard—and knew
Adventure bugling the valiant forth.
They stirred uneasily till dawn,
Answered with wistful chirpings High Adventure's
horn—
But a daffodil wash of morn
Found the wild geese flown
Into the bleak North
Alone!

—NAN MOULTON.

Neighbor Nan

She boot-tramped an April hill
Always talking, never still.
Spectacled the summer moon
With a: "Hope it's autumn soon."
Broomed red leaves with an angry flick:
"All this clutter makes me sick!"
Winter-grumbled out of breath—
And found she couldn't back-talk death.

—GILEAN DOUGLAS.

To Aid The Disabled

IN any well ordered society, the opportunity to emancipate oneself from the unnecessary consequences of disablement should be regarded as a fundamental right of citizenship, much in the same class as free popular education," is the claim of Edward Dunlop, executive secretary of the Canadian Arthritis and Rheumatism Society. Mr. Dunlop was formerly Director of Rehabilitation, Social Service Division, Department of Veterans' Affairs, Ottawa, and had the great misfortune to be blinded during World War II.

It has been estimated that there are probably some 100,000 Canadians who are partially or totally disabled by rheumatic diseases, including arthritis; that there are some 50,000 crippled children; 7,000 deaf mutes and 35,000 individuals in this country who have had one or more limbs amputated. "It is generally recognized that physical impairment commonly leads to unemployment, or employment below the proper level of attainment, to the waste of precious human resources, and to great personal and family distress."

THERE has been help for some in limited groups. The Canadian National Institute for the Blind helps all the blind in Canada; the D.V.A. helps all veterans; workmen's compensation boards give services to disabled workmen in those industries which come under compensation acts of the various provinces; the National Employment Service helps through its placement work to find employment for disabled persons but these services are restricted through not having a range of medical, training and social services to help fit the individual for a particular type of work for which he is suited.

The proposal is that provision should be made at the outset for the rehabilitation of some 15,000 disabled Canadians annually. The accepted definition of rehabilitation is given as: "The process of assisting

Suggested line of action towards rehabilitation of disabled people in Canada.

by AMY J. ROE

the disabled to attain the best possible physical, social, mental, economic or vocational adjustment and usefulness of which they are capable."

To gather some idea of the economic consequences of rehabilitation we need only to look at what has happened in a very short time, recently in the United States. About this Mr. Dunlop has said: "The most revealing figures have been provided by the U.S. Office of Rehabilitation. It provides rehabilitation services to disabled Americans when and wherever they need it. In the four years from 1943, at which time the operations of the Office were expanded by the passage of Public Law 113, it has provided rehabilitation services to 160,000 disabled. Of these almost 75 per cent were unemployed at the time; nearly 20 per cent had never worked. The cost was \$400 per case, and this should be contrasted with the annually-recurring charge of from \$400 to \$600 upon either the public or private purse to maintain a dependent person. The total income of the 40,000 cases served in but one year was increased from an estimated \$11,000,000 from all sources to an estimated \$54,000,000 from earnings. Here, clearly is a social service which pays for itself."

MR. DUNLOP presented a paper to a meeting of the Public Welfare Division of the Canadian Welfare Council, held in Winnipeg during January last. His audience were chiefly persons in charge of administration of private agencies, municipal, provincial and national welfare services. He estimated not more than one-fifth of the disabled people in Canada are now being helped and summed up the situation under four headings:

"That disablement is a significant problem in

Canada. Tens of thousands of disabled Canadians are now ineligible for the services they need.

"That properly cared for, and placed in suitable work, the majority of the disabled can become reliable, safe and efficient workers in normal competitive employment.

"That further surveys of the extent of the problem are impractical and unnecessary. A national rehabilitation program should be launched initially capable of providing rehabilitation for 15,000 people annually, to be expanded in accordance with the demonstrated size and character of the need until available to every disabled Canadian.

"That the problem is so extensive as to require participation by government at all levels and by voluntary agencies in its solution, each operating in the particular area or field to which it is best suited. The fact that all levels of government have not participated fully thus far accounts for the present situation in which Canada lags far behind other English-speaking countries in this aspect of its social services."

The Canadian Welfare Council has been urging upon the Dominion government the need of holding a national conference on the matter, which has been under discussion for some time. During the past month a letter from the Hon. Humphrey Mitchell, Minister of Labour, has given assurance that the conference would be forthcoming.

Homemaking Ideas

A SHORT course for homemakers is to be held again this year at the University of Manitoba. Classes will be held at the Fort Garry site, May 2 to May 7, 1949. There is a registration fee of \$2.00. Room and board can be arranged at reasonable prices or if the student wishes to live out, noon meals may be purchased at the university cafeteria.

An interesting program of talks has been arranged. Those who have had the privilege of attending previously will find the small amount of repetition a helpful review. Those who are interested in sewing will find the series Scene for Spring, with talks on facts for the fashion wise, fabrics, short-cuts and tips for the smart spender, both timely and helpful. Those who are concerned about home furnishing will find talks on arranging furniture, do's and don't's of selecting furniture a useful guide in settling their problems. Dr. Grace Gordon Hood will speak on Who Does the Buying in Your Home and Dean J. W. Grant MacEwan on Building for Permanency. There will also be talks on nutrition and child training, given by other members of the university staff. Application for the course should be made to Dean J. W. Grant MacEwan, University of Manitoba, Winnipeg.

During the past month, the welcome news has come that both the Canadian and the United States governments have made provision in grants this year to provide for further development of the International Peace Garden. A bill authorizing the spending of \$100,000 has been approved in Washington and \$15,000 in the estimates of the Canadian House of Commons has been allocated for the same purpose. The International Peace Garden is located along the boundary between Manitoba and North Dakota. It was started in 1932 and by the time plans were maturing, the war interrupted its development. Many organizations have sponsored the project.



Yellow daffodils, lovely and early sign of spring.



Your Electrified Home

by RUTH JOHNSTON

Make plans now for convenience and safety as well as for the many electrical devices you may use in the future.

RURAL electrification is opening up a whole new world to thousands of homemakers—the miracle of an electrified home. Of the prairie provinces, Manitoba is in the lead with its program of electrification which will ultimately bring electric service to 90 per cent of its farm homes. In its third year of working some 5,000 farms will be newly served through the building of lines. It is expected that the yearly pace will continue until 53,000 farms are served.

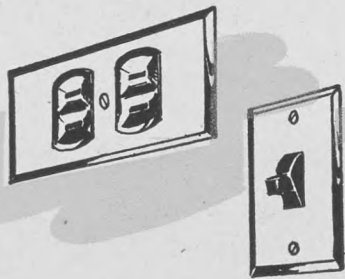
From the woman's viewpoint this means that countless household tasks from Monday's washday to Saturday's cleaning or baking are being taken over by efficient, labor-saving electrical appliances. Even the simple act of seeing takes on a new glamour with the installation of electric lights. Gone the sad-irons, the kerosene lamps, the gasoline motors and the other cumbersome household equipment! In their places will come the modern household helpers, ready to use by simply flipping a switch.

Too many home owners in the past have had their houses wired without paying much attention to any of the detail. They possibly reason that after all electricity is not exactly in their line and let the workmen, who come to do the job, put connections and outlets wherever they please.

Too often the women in these newly electrified homes realize the faults in the finished job, especially as their use of appliances increases. It would have been nice to have some way of connecting the vacuum cleaner so that the stairway and hall floors could be cleaned without using an extra long extension cord. The washing machine cord running across a line of traffic in the kitchen becomes a definite tripping hazard. It would have been wise to have had a wall switch instead of that pull chain on the kitchen light to eliminate those hazardous trips across the dark room looking for the cord. It would have been well to have the stairway well lighted with a two-way switch which could be operated either from upstairs or down.

Most homemakers, who are getting electricity for the first time feel that it will be wonderful to have just one wall outlet and a centre ceiling light in each room. And so it will be — for today perhaps and a little while longer. But what of the years to come? Once you have electricity, the

uses you will put it to will increase as you add to your store of equipment. Where will you plug in the washing machine, the food mixer, the waffle iron, teakettle or toaster, the heating pad, an electric clock, the bedroom radio, the extra lamps and all the other things you plan or hope to have. Even though your appliances may be limited to two or three things now, a wiring



Have plenty of properly placed outlets and switches.

job should last a lifetime, keeping the future as well as the present needs in mind. When you are reckoning on paying for wiring your house why not have it cover a proper job, than to try to patch it up afterwards, which will be a further expense. In other words be sure you have adequate wiring at the time it is installed.

Principles Of Good Wiring

The four main principles of a good wiring system are: (1) That it is in accordance with the safety regulations of your province. (2) That the wire used is sufficiently heavy to carry your future as well as your present electrical needs. (3) That your wiring system is planned for easy and economical expansion in the future. (4) That there are enough outlets properly placed for convenient use and control of electrical equipment.

What Is Adequate Wiring?

Adequate wiring is made up of many factors. Some of these, like the size of the wire, the service entrance equipment, type of fuses, etc., are the responsibility of the electrician who handles the job of installation. His choice of installations will conform

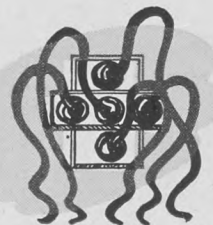
with the provincial regulations, keeping safety uppermost in mind. If he understands that you want wiring which will meet future demands as well as those which you want now, he should and will likely install wiring which is heavy enough and with sufficient number of circuits to handle the load. He will use a wire no lighter than a No. 14 and in most cases he will see that you have a three-wire service entrance from the power company lines. He will locate the master switch and distribution panel in some handy place . . . not under the beams in the coal cellar or under the rafters in the attic, as did many of his profession years ago. He will do a modern job working out all these considerations in the best possible way. That is his job. You as homemaker should check with him to make sure that all the things you want now and plan for the future are possible when the job is finished.

In order to check his work you must first have some knowledge of what is involved. Study all you can about interior wiring beforehand. Write down all your potential uses for electricity in the house. The planning of a wiring system is an important family project which requires study and careful thought. The planning is your responsibility. When you can tell an electrician exactly what you want he can better judge the type of installation. If you happen to get a rather inexperienced man doing the work, you can quickly sense that you must appeal to some higher authority in the work and have exact instructions given by a responsible person.

Plenty Of Convenience Outlets

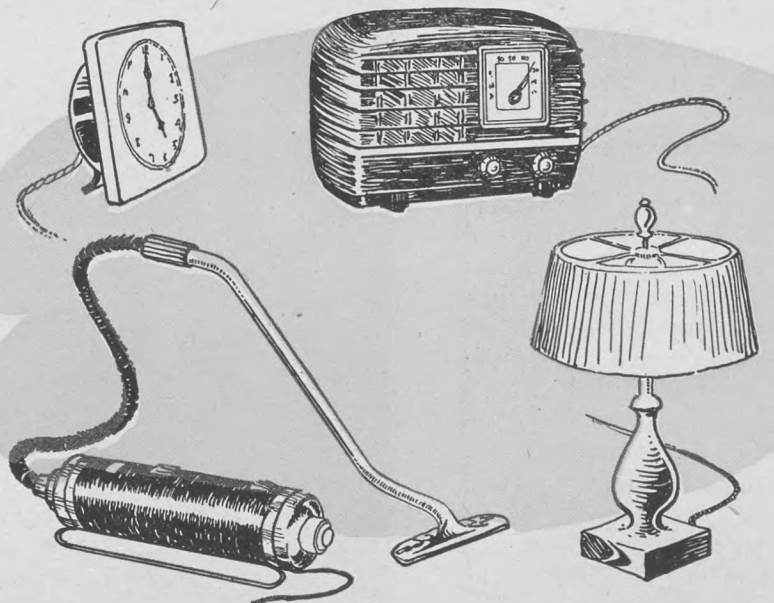
Too few outlets in any room add up to the menace of the "octopus plug" or the overloaded outlet. Such an arrange-

ment of spaghetti-like cords can be dangerous as well as unsightly. If too many things are connected to one outlet there is a danger of overheating, which can result in fire. Then, too, lights will flicker, an iron or heating pad will take too long to heat, or in extreme cases of overloading, a fuse will blow. To make sure that you have enough outlets, here is a guiding rule: There should be a convenience outlet every 12 feet around the edge of the room. That means that no point in the room will be more than six feet from an outlet, which automatically eliminates the "octopus plug." In most cases you will want these outlets just above the baseboard. Try not to locate them so that they will occur behind heavy pieces of furniture.



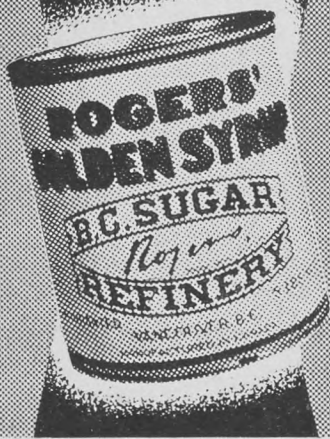
The octopus plug is a hazard.

Keep in mind the electrical devices you plan to use in a particular room. Then you can make arrangements to have an outlet high enough on the kitchen wall so that the kitchen clock may be plugged in, or an appliance such as a mixer, toaster, or iron can be conveniently located on your working table, cabinet or ironing board. Do not forget to have at least one outlet in each hallway to provide for the use of the vacuum cleaner. If the men folk in your house plan on one day having an electric razor, then you will need an outlet in the bathroom. As a safety precaution, no outlet should be too close to the kitchen sink, fixed laundry



Where will these items be placed in the future?

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tubs in the basement or bath tub. One may get a severe electric shock or fatal injury through a current running from a fixture, through the body and some article "grounded" such as a pipe to a sink or a radiator.

Switches And Lighting Fixtures

If you ever have had to go down-stairs to turn off the upstairs light or grope in the dark for an elusive switch, you know from experience how awkward a poorly located light switch is. Have the switch just inside the doorway about four feet from the floor, on the swinging side of the door. In this way you can light the pathway ahead of you. Rooms with two entrances should have a switch at each doorway so that you will never need to cross the room in the dark. The basement light should be controlled from the main floor, while hallways and stairways should have light switches at both ends. These are small items in planning which will pay big dividends in convenience and safety later on.

When the wiring is done, the centre ceiling fixtures are a part of it. Ceiling lights in kitchen, bathroom, halls, dining room, porch and basement are fairly well considered to be standard equipment. Until recently it was considered essential to have them in living rooms and bedrooms also. Now however, it is optional for these rooms. It is possible to achieve a well lighted and attractive appearance by using only portable lighting fixtures such as tri-lights, torchieres, table lamps, boudoir lamps, etc., depending on the room. In fact a bedroom with only a central ceiling light is inconvenient both for dressing and reading purposes. You may want to consider the possibility of using some of the very modern permanently installed lighting fixtures such as fluorescent tubes under the kitchen wall cabinets, beside the bathroom mirror or behind the window valance in the living room. Provisions for these should be made when the wiring is put in.

Separate Wiring For Heavy Duty

If you plan on having an electric stove, furnace stoker, electric fire-place or heavy-duty ironer, you will need to have them specially wired in the place where they are to be used. All of these items require much more electricity to operate than the plug-in items such as a toaster, washing machine, etc. In general, any "heating apparatus" requires more power. However, this type of wiring need not be planned for ahead of the purchase. It can be done when the appliance is installed.

Summing it up: If your house is wired by an experienced electrician with due consideration given to technical details as well as providing for the things mentioned above, then it will be well wired. But do not leave the job entirely to the contractor's judgment or a handyman's whim. If you take thought and analyze the situation beforehand, get all the information you can from books, pamphlets and by talking to those who know something about uses of electricity and add to that any suggestions which the members of your family have to offer—you should get an adequate wiring job—adequate for today and for the years to come.



(coffee?)



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What a record! What a recommendation! What proof that no other flour even approaches Robin Hood for successful baking results.

To prove this for yourself, use Robin Hood Flour for this quick-ready bread — and see how wonderfully it turns out.

Here's all you do:

Let yeast stand in lukewarm water for about 5 minutes (if granular yeast is used, add 1 teaspoon sugar).

Place milk in bowl and add sugar and salt; cool to lukewarm.

Add 1 cup of Robin Hood Flour and beat with a rotary beater until smooth.

Beat in the eggs, then add yeast and another cup of flour; beat until well blended, then beat in the melted shortening.

Mix in enough flour to make a soft dough that can be handled.

Place dough on board and let stand covered, for about 5 minutes.

Knead only enough to smooth up dough.

Place in greased bowl, cover and let rise 1 hour in a warm place (85° to 90°).

Punch and let rest, covered, for 5 minutes.

Divide dough in two parts; roll each piece out in a rectangle, being sure to press out all the gas bubbles.

Shape into loaves, place in greased loaf pans and let rise 1 hour.

Bake 50 minutes, in moderately hot oven (375°F.).

Yield: 2 loaves.

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Rita Martin

Director, Home Service Department,
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Robin Hood Flour

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Jiffy Pickles

Items to add zest to spring meals.

If spring finds your store of relishes and pickles almost depleted, you may want to try some of these easily and quickly made pickles to fill up your jars. They will help to bring new zest to your spring menus . . . perhaps become a favorite in its turn. All are made from vegetables and fruits that are easily obtained even in the late winter. Mostly all are ready for immediate use when cooked, yet possess keeping qualities.

When wishing to serve something tasty, something out of the run of your usual culinary activities, try Baked Orange Relish. It requires the same cooking time as ham or a roast, and when served with these, or any meat dish, makes something special.

Chili Sauce

- | | |
|--------------------------|--------------------------|
| 1 28 oz. tin of tomatoes | ½ c. vinegar |
| 2 or 3 onions (chopped) | 1 tsp. salt |
| 1 c. brown sugar | 1 tsp. cinnamon |
| | 3 tsp. whole mixed spice |

Tie whole spices in a muslin bag. Add to other ingredients and boil until it is a thick relish. Ready to use, but will improve in flavor in a few days.

Red Cabbage Pickle

- | | |
|---------------------------|---------------------|
| 1 medium firm red cabbage | ½ tsp. whole pepper |
| 1 quart vinegar | ½ tsp. allspice |

Shred cabbage, sprinkle liberally with salt. Let stand over night in an earthenware dish or crock. Boil vinegar, pepper and spices together, the latter having been tied in a muslin bag. Let vinegar mixture cool, drain the brine off the cabbage, and pour the spiced vinegar over the shredded cabbage. Ready to use in 3 to 4 days.

Quick Relish

- | | |
|--------------------|---------------------|
| 1 large onion | 1 tsp. salt |
| Small bunch celery | ¼ tsp. white pepper |
| 3 or 4 carrots | |
| 3 T. brown sugar | |

Put onion, celery, and carrot through the food chopper. Add sugar, salt and pepper to ½ cup of vinegar and bring to a boil. Pour the hot sweetened vinegar over vegetables and let stand a few hours.

Baked Orange Relish

- | | |
|--------------------------------|----------------------|
| 2 large oranges | ½ c. pineapple juice |
| 3 or 4 slices canned pineapple | 1/3 c. sugar |
| 1 tsp. cinnamon | 1 T. lemon juice |
| 8 whole cloves | ¼ tsp. salt |

Slice oranges thin, use skin and pulp. Remove seeds. Cut pineapple into small pieces. Combine all ingredients. Place in glass or earthenware baking dish. Bake in moderate oven 2 to 2½ hours. This is a delicious relish with meats. Serves 6 to 8.

Apple and Tomato Butter

- | | |
|------------------------------|------------------|
| 1 28 oz. tin tomatoes | 1 pt. vinegar |
| 6 or 7 green apples (peeled) | 3 c. brown sugar |
| 3 large onions | 1½ tsp. salt |
| | 1 T. cinnamon |
| | 1 T. allspice |

Boil all ingredients together 3 hours. Do not add all the vinegar at once or the pickle may be too juicy. Add in small amounts to taste while cooking. Ready to use when cooled but will improve with a few days keeping.

Sweet Corn Relish

- | | |
|-------------------------|---------------------|
| 3 20 oz. cans corn | 1 small tin pimento |
| 1 head cabbage (5 lbs.) | ¼ c. salt |
| 4 large onions | 1 qt. vinegar |
| 1 bunch celery | ½ c. flour |
| 2 c. sugar | 1/3 c. mustard |

Chop all vegetables fine. Mix dry ingredients and stir in vinegar. Add chopped vegetables and corn. Cook until vegetables are clear. Seal in jars. May be used in a few days.—M. E. B.

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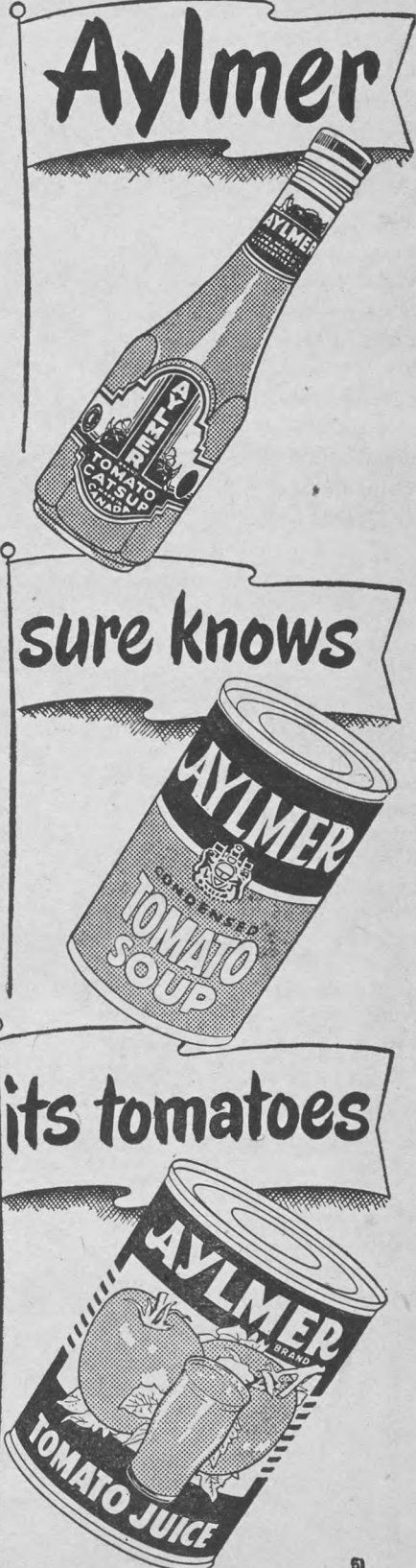
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Varieties of hearty sandwiches for satisfying meals, described below.

Savory Suppers

Food in new and tempting guise adds to appeal of evening meals.

by EFFIE BUTLER

SUPPER is a family affair. A time for news of the children's day at school; a time of family confidences, and relaxation for all. Therefore, supper dishes should be easy to prepare, easy to serve, and fully satisfying.

Fragrant, hot, thick soups and chowders on the supper table in a large covered bowl with a ladle is an easy way of serving; stews take on new interest (and keep hotter) when served that way too. Open-faced sandwiches heaped high with chopped meat, fish, egg, or vegetables and liberally garnished with a flavorsome cheese, tomato, egg, or onion sauce or a relish with a spicy tang, are easy to prepare and provide a way of bringing everyday fare to the table in new and tempting guise.

Venetian Eggs

- | | |
|--------------------------------|--------------------|
| 1 T. butter | ½ c. grated cheese |
| 1 T. chopped onion | 1 tsp. salt |
| ½ large can tomatoes (1¼ cups) | ¼ tsp. pepper |
| | 3 unbeaten eggs |
| | Toast |

Melt butter in upper part of double boiler and brown onion lightly in the butter over direct heat, stirring constantly. Add tomatoes and seasonings and bring to the boiling point. Set pan over boiling water. Add the eggs which have been beaten slightly and to which the cheese has been added. (To prevent too-rapid cooking of eggs, it is advisable to stir the hot mixture into them before returning to the double boiler.) Stir constantly until the mixture thickens over the hot water. Serve hot on buttered toast.

Corn And Bacon Pancakes

- | | |
|------------------------|--------------------------------|
| 6 or 7 slices of bacon | ½ tsp. salt |
| ¼ c. bacon fat | 2 eggs |
| 1¾ c. flour | 1¾ c. sweet milk |
| 4 tsp. baking powder | ½ c. drained whole kernel corn |

Cut bacon into small pieces and fry until crisp. Drain off fat. If you haven't the required ¼ cup add more fat or butter to complete the measure. Sift together flour, baking powder, and salt. Beat eggs and add milk. Make a well in flour mixture and gradually stir in egg mixture; stir to a smooth batter; stir in melted bacon fat, corn, and cooked bacon. Drop by spoonfuls on lightly greased frying pan and cook until bubbles appear and break on the surface, then turn and cook and brown second side. If you wish this

supper dish to be still more hearty, serve with creamed eggs.

Salmon Supper

- | | |
|--------------------------------------|---------------------|
| 1½-2 c. salmon (canned or leftovers) | 1 egg |
| 1 c. cooked rice | 1 small onion |
| 1 c. fine, dry bread crumbs | Juice of 1 lemon |
| | 1 can tomato soup |
| | 3 or 4 strips bacon |

Flake the salmon and remove the bones and skin. Mix salmon, rice, onion, minced fine, crumbs, egg and lemon together, and put in a buttered casserole after seasoning the mixture to taste. Pour over the top the tomato soup to which add a little water. Cut the bacon in small pieces and sprinkle on top. Bake in a moderate oven, 350 degrees Fahr. for 30 to 35 minutes, or until the bacon chips are nicely browned. Serve very hot.

Cheese Souffle

- | | |
|-------------------|----------------------|
| 2 T. butter | ¼ tsp. cayenne |
| 3 T. flour | 1/3 c. grated cheese |
| ¾ c. scalded milk | 3 eggs |
| ½ tsp. salt | |

Make white sauce with the first five ingredients. Add the cheese and remove from the fire. Separate eggs and add the beaten egg yolks to the sauce and cheese. Set aside to cool. When cool add the whites beaten to a stiff froth. Pour into buttered baking dish and bake 30 to 40 minutes in moderate oven, 325 degrees Fahr. Serve at once. Serves 3 or 4.

Baked Lima Beans

- | | |
|-----------------------|--------------------|
| 2 c. dried lima beans | ½ c. tomato catsup |
| 3 slices bacon | 1 T. brown sugar |
| ½ c. chopped onion | ½ tsp. mustard |
| | 1 tsp. salt |
| | ¼ tsp. pepper |

Pick over and wash beans. Cover with plenty of cold water and soak overnight. Drain. Add three cups boiling water and cook until beans are tender. If beans are very old add ¼ teaspoon soda. Put in covered casserole or bean pot and add remaining ingredients. Cut bacon in bits and sprinkle on top. Bake in slow oven two to three hours adding more water, if necessary, to make plenty of flavorsome sauce.

Spinach Loaf

- | | |
|---|--------------------|
| 1 c. spinach, or peas, or beans, or asparagus, or cauliflower | 1 c. grated cheese |
| 1 c. canned tomatoes | 1 T. grated onion |
| | 1 T. butter |
| | 2 eggs |
| | 1 Bouillon cube |

Cook grated onion until browned in butter. Add bouillon cube melted in ¼ cup hot water. Beat eggs; add to the cheese, then add to the onion mixture. Add vegetables and pour all into a buttered baking dish. Sprinkle the remain-

Sweet 'n tasty!



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SWEDISH TEA RING

New Time-Saving Recipe—Makes 2 Rings

Measure into large bowl . . . 2/3 cup lukewarm water,
1 tablespoon granulated sugar
and stir until sugar is dissolved.

Sprinkle with contents of . . . 3 envelopes Fleischmann's Royal Fast Rising Dry Yeast.
Let stand 10 minutes, THEN stir well.

In the meantime, scald . . . 2/3 cup milk.

Remove from heat and stir in . . . ½ cup granulated sugar,
1¼ teaspoon salt,
6 tablespoons shortening.

Cool to lukewarm and add to yeast mixture.

Stir in . . . 3 eggs, well beaten

Stir in . . . 3 cups once-sifted bread flour and beat until smooth.

Work in an additional . . . 3 cups once-sifted bread flour. Turn out on lightly floured board and knead dough lightly until smooth and elastic. Place in greased bowl, brush top with melted butter or shortening. Cover and set dough in warm place, free from draught. Let rise until doubled in bulk. Punch down dough and divide into 2 equal portions; form into smooth balls. Roll each piece into a ¼-inch thick oblong. Cream until soft . . . ¼ cup butter, and mix in . . .

1 cup brown sugar (lightly pressed down),
2 teaspoons ground cinnamon.

Spread this mixture on oblongs of dough and sprinkle with . . . 1 cup raisins or currants.

Beginning at a long edge, roll each piece up like a jelly roll; place each roll on a greased large baking sheet and shape into a ring, sealing ends together. Grease tops. Cut 1-inch slices almost through to centre with scissors and turn each slice partly on its side. Cover and let rise until doubled in bulk. Brush with 1 egg yolk beaten with 2 tablespoons milk. Bake in moderate oven, 350°, 25 to 30 minutes.

If desired, spread tops, while warm, with a plain icing. Serve hot, with butter.



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ing cheese over the top. Bake in a moderate oven, 350 degrees Fahr. for 25 to 30 minutes or until cheese is golden brown.

Hearty Sandwiches

Once in a while, it's a welcome change to serve a simple evening meal on the porch. And nothing is simpler than sandwiches, the family's favorite drink, with fruit and cookies to "top-off." But the sandwiches must be hearty to satisfy keen appetites. The ones shown are guaranteed to do just that! The ones at the left, with top lid off, show roast pork which was rubbed with sage

and savory while roasting. One slice of bread is spread with butter, the other with salad dressing. Second row are rye or whole wheat bread filled with liver sausage, creamed and thinned with salad dressing and dotted with mustard pickle. The split rolls are "Bacon-Beanburgers." Each hold a slice of crisp bacon, mashed baked beans mixed with finely chopped onion and mayonnaise. The filling in those at the far right is made of two cups chopped cooked tongue, ½ cup chopped sweet pickle and a little mustard and mayonnaise to moisten. All are satisfying and delicious!

Velvety Custards

Follow the rules to secure perfect results.

by M. MARY STANSFIELD

ACHIEVING perfection in making custards is just a matter of following the rules. Once these are mastered it is no trick at all to turn out sauces that are smooth, thick, and creamy, and baked custards which are firm, yet tender and jelly-like in consistency. And there are so many delicious variations of both types that there is no limit to the variety of treats you can serve.

Quality is dependent on the proportion of eggs and milk in the mixture. The more eggs you use, the quicker it will set, at a low temperature. It is not necessary to use whole eggs every time. In fact you will enjoy the variety of flavor and texture if you substitute yolks alone or whites alone. Two yolks to each cup of milk make a nice custard sauce, but three to a cup produce a richer, smoother sauce.

For a baked custard allow six whole eggs to each quart of milk, or you can use yolks or white entirely, but you will need double the number to secure the right consistency. It is the protein in the eggs which causes a custard to thicken. The fresher the eggs the sooner the mixture will set at a low temperature.

Intense heat hardens the protein and causes a custard to become watery and full of holes. Not only is it unattractive, but it is less digestible. For baked mixtures, keep the oven at 325 degrees and for sauces do not allow the water in the double boiler to go beyond simmering point.

Of course it is quite possible to use cold milk but if you have time it does pay to scald it in the double boiler. Why? Because this hastens the setting of the mixture, it shortens the length of time it needs to stay in the oven and thereby reduces the chances of over-cooking.

Mix the whites and yolks until blended. Do not beat until foamy because this entangles air and makes the custard porous instead of smooth in texture. Add the hot milk gradually to the eggs, stirring constantly. If poured in rapidly the egg will cook unevenly and some of its thickening power will be lost. Never add the egg to the hot milk or it will coagulate and cause lumps.

To secure a perfectly smooth result, do not omit straining as it removes the tiny cords that held the yolks and whites together. Pour the mixture into a baking dish and surround it with hot water to prevent the outer part from becoming set before the centre is done. Never allow the water to boil.

Temperature is just as important in making a custard sauce. Use a double boiler or set a bowl over a tea-kettle.

Do not allow the water to boil. Stir constantly, especially around the sides and bottom of the pan where the cooking is more rapid.

Custard Sauce

1 qt. milk
4 eggs
¼ tsp. salt

¼ c. sugar or
honey
Flavoring

Heat milk in double boiler. Beat eggs slightly, add salt and sweetening. Pour on milk gradually stirring constantly. Return to pan and cook over water that is barely boiling. Stir constantly until the mixture coats a metal spoon. Remove from heat at once, strain and flavor with ½ tsp. vanilla or ¼ tsp. almond extract. Chill or serve at once.

Made in quantity and stored in a sealer in a cool place, this sauce is a real standby. It is delicious when poured with a generous hand over cut up fruit, or over sponge cake topped with fruit, over fruit whips or served with fruit pies. Everybody loves it with gelatin desserts or baked puddings.

From the standpoint of nourishment custard sauce is superior to whipped cream which is mostly fat. Custard on the other hand contains valuable proteins, vitamins, and minerals that are essential for young and old.

By using strong coffee, cocoa, chocolate and other flavorings you can produce an endless variety of treats for your family.

Baked Custard

1 qt. milk
6 eggs
¼ tsp. salt

¼ c. sugar
Flavoring

Heat the milk and add it gradually to blended eggs and sweetening. Strain and pour into a casserole or custard cups. Bake at 325 degrees, surrounded with hot water. When a knife inserted in the middle comes out clean, the custard is done. Remove and place on a rack to hasten cooling.

Vary the flavor as directed above or sprinkle cocoanut on top of the mixture before baking. Grated orange scalded with the milk is another suggestion.

Use the same proportions for bread puddings. Cut the bread in cubes, pour a little milk over them and let stand while you are mixing up the custard. Pour this over the cubes and bake at 325 degrees until a knife comes out clean. By spreading jam or jelly over the pudding when it is done and topping with a meringue, you turn it into Queen of Puddings. Vary these by using raisin bread, orange bread or stale cake.

Vegetable Custards

This is a good supper dish that uses up small amounts of cooked vegetables.

1 can corn
1 c. milk
3 eggs
2 tsp. salt

1 T. minced onion
1 tsp. sugar
¼ tsp. pepper

Mix corn, milk and beaten eggs, season and bake like custard. It is important to season well with finely chopped onion or chives. Corn can stand more pepper than many other vegetables. Carrots are nice with corn and so are peas. Chopped parsley adds flavor and color.

Needlework Ideas

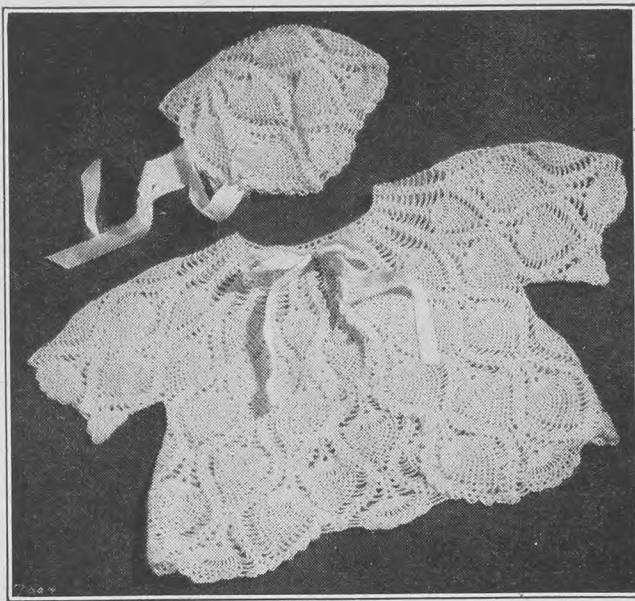
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by ANNA DE BELLE

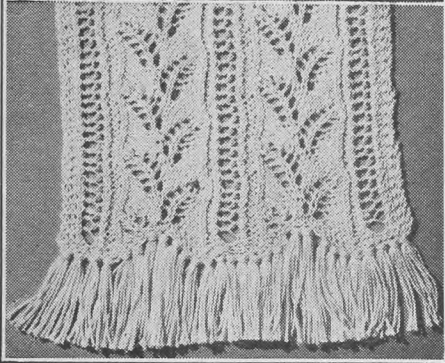
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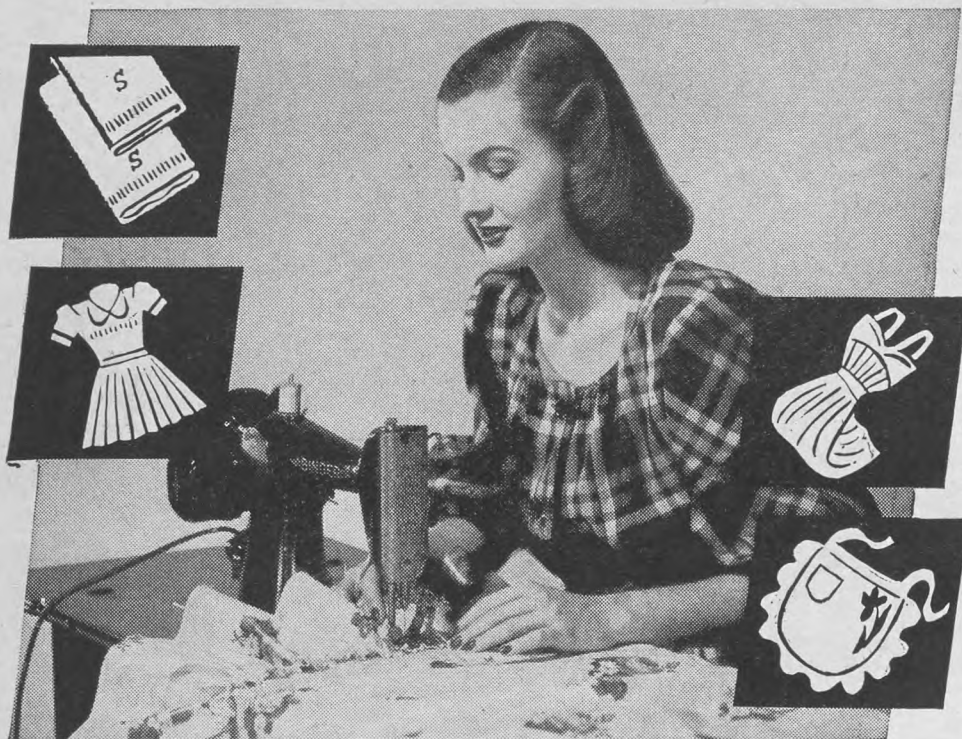
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Group at Souris, Man. study home improvement at three-day conference.

Ideas At Work

Planning for convenience brings satisfaction and savings.

by MARGARET M. SPEECHLY

IF you had looked in at the Council Chamber at Souris, Manitoba, last November you would have found a group discussing home improvements. These men and women had come from the surrounding areas to take advantage of a three-day course offered by the Extension Service of the Provincial Department of Agriculture. So practical and stimulating were the lectures that many dashed home to do the chores and were back again for the next one. In fact some did not go home at all until the course was over.

Ideas were what these enthusiasts were interested in, practical ideas that would help them to make their homes more comfortable. The experts presented up-to-date information about house planning and construction, discussed the pros and cons of different methods, and skilfully drew on the experience of the audience.

Starting with the arrangement of the homestead, the lecturers threw on the screen the newest plans available for rural houses and explained in detail the advantages of modern arrangement of living space. An array of useful pamphlets supplemented the talks and provided many new ideas in construction.

Today everyone acknowledges that it is good policy to insulate, but the folks at Souris wanted to know whether it paid with old houses and what type of material should be used. Are shavings suitable, they asked? What about sawdust? Is mineral wool satisfactory? How can it be put into an old structure? The lecturer, with years of experience as his guide, showed how to do a good job and in plain terms indicated how to avoid disappointment.

Then there was the matter of plumbing. Nothing affords so much comfort and satisfaction as water-works, but there is a lot to learn before attempting to install a system on the farm. In the first place there must be enough water available for the needs of the household and each family has different requirements. The lecturer was asked how to estimate whether wells, cisterns or dug-outs would hold enough water for the average family. When you consider that

each time a toilet is flushed, about a pail and a half of water is needed, it is easy to see that this is a key question.

Many in the audience wanted information about septic tanks. Not only were they interested in the principles of operation and in construction, but in the provincial regulations concerning the placing of tanks. The lecturer brought to light many interesting facts about the type of soil needed in a disposal-field. Follow the best methods, he advised, and you will be assured of years of service. Disregard the rules, and there is certain to be trouble.

AS Souris already had the hydro, the wiring of buildings was of immediate interest. Many had already done interesting things in this line and were therefore in a better position to take advantage of the lectures. All through the course it was evident that the people who had had experience were the ones who derived the most benefit from the lectures and were the readiest to share their experiences with others.

In all the discussions the women were as keenly interested as the men because home conveniences mean so much to them. They also enjoyed to the full the lectures on suitable color schemes and furnishings which were illustrated by samples of materials and scrap-books as well as attractive pamphlets. Trends in the design of electrical equipment were discussed by the lecturer and many interesting facts were brought to light concerning washing machines, hand irons, ironing machines and other labor-savers.

One of the most interesting features of the course was a tour of farm homes that had been built or improved in recent years. By seeing what others had accomplished it was possible to pick up new ideas and to find out how the owners had surmounted difficulties.

Of the three homes visited one was brand new with all the conveniences one could wish for. Having built more than one house in their day, the owners knew exactly what they wanted and how to avoid pitfalls. In showing the visitors over the house they ex-

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plained various unusual features and gave the result of their experiences.

A second home illustrated how an older building, far too large for the present occupants, had been made into a convenient dwelling with labor-savers at every turn, excellent lighting and large windows.

THE third house was different again. It was put up 50 years ago when nobody bothered about convenience, but the present owners did not sit back and complain. They tackled the things they considered the most important, and year by year made improvements which added to their comfort. First they cut a door in a partition between the kitchen and the dining-room which has saved miles of walking yearly. They put well-planned cupboards at strategic points upstairs and down, and best of all they installed a water system.

By doing a lot of scheming they found space for a three-fixture bathroom in one end of an upstairs hall. The area was not more than four feet by seven feet, but it illustrates what can be done by planning. The system for pressure tanks in the basement that the owner worked out was of particular interest to the men. This house is far from modern, but the comfort enjoyed shows the value of a long-range plan for improvements.

This sharing of experience is one of the main benefits of a course such as was held in Souris. In every district there are lots of people who cannot put up a new house for various reasons. Some are paying for the education of young people in high school or college. Others are loaded down with medical bills or illness. Even those with enough funds find it hard to get needed materials.

However, none of these things need prevent people from working out schemes for making their homes more livable. By drawing plans, collecting bulletins, picking up practical ideas and learning what to avoid they will be in a position to secure what they really want.

In fact, many of the ideas illustrated by the lecturers or seen in the tour of the homes could be installed in the average house without delay. A suitable cupboard for holding the men's work clothes is a tremendous help in keeping the kitchen tidy. A good box for fuel, either built in or on casters, saves no end of mess. An ironing board that folds against the wall is well worth having, and so is a swinging device for the garbage pail made from the "table" of an old cream separator.

Even the matter of a new surface for the cabinet top or the table would make a big difference to many kitchens. It was interesting to listen to the owners of the houses explain their preferences in floor coverings and wall finishes, but even more valuable were their descriptions of how they overcame difficulties.

The people who attended the course at Souris were enthusiastic about what they learned and it is safe to say that they saved hundreds of dollars by knowing what to do and what to avoid in home construction. The lecturers were only able to touch the fringes of many questions.

This course has been enjoyed elsewhere in Manitoba and is available to other districts if application is made by a local organization.



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MAGIC BIRTHDAY CAKE

3 cups sifted pastry flour	6 tbsps. butter or margarine
or 2½ cups sifted hard-wheat flour	1½ cups granulated sugar
4 tps. Magic Baking Powder	4 eggs, well beaten
¾ tsp. salt	½ tps. grated orange rind
6 tbsps. shortening	1¼ cups milk
	1½ tps. vanilla

Sift flour, Magic Baking Powder and salt together 3 times. Cream shortening and butter or margarine together; gradually blend in sugar. Add beaten eggs, part at a time, beating well after each addition; mix in orange rind. Measure milk and add vanilla. Add flour mixture to creamed mixture about a quarter at a time, alternating with three additions of milk and combining lightly after each addition. Turn into one 7" and one 9" round cake pan, 1½" deep, which have been greased and lined on the bottom with greased paper—if pans are shallow, line sides with a "collar" of greased heavy paper. Bake in moderate oven, 350°, 35 to 45 minutes, depending upon size of cake. Cover and decorate cold cake with butter icing—tinted to match candles, for filling and lower layer.




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A Child's Garden

The results in character training and parent-child relationship are of inestimable value.

by CHRIS MACKAY

EVERY child should have a garden of his or her own, even though it may be only a small plot. Allot the small child only a tiny garden plot so that it will be within his ability to keep it neat and free from weeds later on. Children love to garden and although it does take time and patience to direct the youngster, it is a mistake to discourage his enthusiasm for one. No child should ever be deprived of a garden of his own—especially, no country child. You would surely regret it later.

Even the tiny tots are so eager to help that they can be given many little errands in connection with it. A three or four-year-old who brings the seed packages or holds the stakes or string or carries the rake or the watering can feels that he has had a share in the garden activities. And the results in character training and parent-child relationship are of inestimable value. The close companionship of a parent and child working together at any common task is precious. It helps build the sort of relationship that is needed when adolescence problems arise. Early companionship is the solution.

Each year the children start talking of gardening as soon as spring breaks. We have found that any child old enough to go to school is old enough to have his own little garden. We let the youngsters start with any three vegetables, of their own choosing. And how proud they are of their independence in being allowed to purchase exactly the kind of seeds they like best! Lettuce and carrots are particular favorites.

We keep a set of small-size sturdy

tools for the younger gardeners and show them how they are used. From there on the project is the child's. That is to say, we do not interfere with his plans at all—but we are ever-ready to answer his multitudinous questions and to show him how to do anything when he asks for help. His early gardens will be far from perfect and some of the mistakes he will recognize himself and inquire as to the reasons. He is learning.

THERE is only one point upon which we insist and that is that the garden must be weeded regularly. We tell him that he must always keep the weeds out so his plot won't spoil the look of the family garden. Rather embarrassing for us, but thrilling for him to be able to announce some evening, "Mom, you have two dandelions and three thistles in your garden!" He always knows the exact number. Son is proud of his garden. He likes to show it to his friends. If they haven't one, they envy him. If they have, there is usually an argument as to whose is best or whose is neatest! Yes, youngsters must be taught to take full responsibility for their undertaking. It is a good time to learn that very important lesson and stands them in good stead for many years.

A garden gives a child training in many ways and it gives him a very special tie to his home and a sense of pride in it. By all means, let the children have gardens. If you have neglected to do so, now is the time to start. No lettuce ever tastes so good as that from son's or daughter's own garden!

Aluminum Paint Uses

This quick-drying, easy-to-apply finish may serve many useful services around the house.

by HILDA TIEFENBACH

ALUMINUM paint, mixed specifically for use on exterior metallic surfaces, is a thin composition that is both easy to apply and quick to dry. Moreover, it covers surfaces so well that one coat is usually sufficient. Although it is commonly used to refinish radiators, boilers, steam and water pipes or as a ground color over dark-colored surfaces, it has potential value for use around the home because of its labor-saving properties. One half-pint tin added to the store of household paints can be used in the following ways.

Flower pots, which are gaining prominence in the country home, look attractive after only one application of aluminum paint. Moreover, anyone who has struggled with ordinary household paint will fully appreciate the time and energy saved by using aluminum paint for this purpose.

Four empty syrup or honey containers can be quickly converted into a canister set with aluminum paint. When dry they can be decorated with brightly colored transfers or if time permits brightly colored letters arranged to form the words sugar, salt,

tea and coffee can be made and glued to the containers intended for those purposes.

Another asset to the kitchen can be made by painting an obsolete water-pail—preferably the small enamelled type with narrow base—removing the handle and gluing the letters "WASTE-PAPER" across the front. A spray of colorful roses pasted above and below the lettering will add to its appeal and induce children to use the basket instead of the floor for their clippings.

A practical yet attractive door-stop can be made to match the waste-basket by cutting the sides of a tomato tin in narrow strips, bending the strips into irregular positions, and fastening a paper flower to the top of each strip. Set the flowers into a larger tin which has been coated with aluminum paint and filled with suitable weights.

Old, dented coal-pails and containers for waste-products will acquire that "new look" from just one application of aluminum paint and they will then match your other containers!

Unshelled nuts coated with aluminum paint make unique ornaments displayed in bon- (Turn to page 90)

April Fashions

Hollywood
Patterns

412

420

414

416

417

No. 412—Smart shirtwaist dress, smooth fit over hipline, shirred smocking at shoulder, graceful long sleeves or cape sleeves. Sizes 14, 16, 18 and 20 years, 34, 36, 38, 40, 42 and 44-inch bust. Size 18 (36), $4\frac{1}{2}$ yards 35-inch fabric. Price 35 cents.

No. 420—Sleek six gore princess slip with mitred bra top. Sizes 14, 16, 18 and 20 years, 32, 34, 36, 38, 40, 42, 44, 46 and 48-inch bust. Size 18 (36), $2\frac{1}{2}$ yards 39-inch fabric. Price 25 cents.

No. 414—Lounging robe, braid bound, in two lengths. Choice of convertible collar or Mandarin neckline. Sizes 12, 14, 16, 18 and 20 years, 30, 32, 36, 38 and 40-inch bust. Size 16 (34), $4\frac{1}{2}$ yards 35-inch long; Mandarin model $4\frac{1}{2}$ yards 39-inch fabric. Price 25 cents.

No. 408—Three-piece bolero suit with swing skirt, topped by saddle-stitched, scalloped blouse. Sizes 11, 13, 15, 17 and 19 years. Size 13 (31 bust), bolero and skirt $3\frac{1}{2}$ yards 39-inch; blouse $1\frac{1}{2}$ yards 39-inch fabric. Price 35 cents.

No. 927—Tot's dress with yoke to outline in eyelet or have trim tucks, sash-tied basque bodice releases dirndl skirt. Sizes 6 months, 1, 2 and 3 years. Size 2, $1\frac{1}{2}$ yards 35-inch fabric. Price 15 cents.

No. 416—Smart shirtwaist with optional dress-making sash, brief sleeves, choice of convertible neckline or Mandarin collar. Four-gore skirt. Sizes 12, 14, 16, 18 and 20 years, 34, 36, 38 and 40-inch bust. Size 16 (34), skirt $1\frac{1}{2}$ yards 39-inch; blouse and sash 3 yards 39-inch fabric. Price 25 cents.

No. 417—Fitted basque bodice dress with portrait neckline, double row cable cording at hipline. Sizes 11, 13, 15, 17 and 19 years, 29, 31, 33, 35 and 37-inch bust. Size 13 (31) requires $3\frac{1}{2}$ yards 39-inch fabric. Price 25 cents.

Be sure to state correct size and number of pattern wanted.

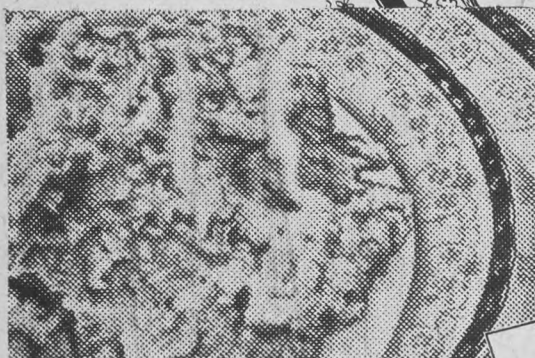
Write name and address clearly.

Note price of each pattern.

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Household Hints

Time and work-saving ideas.

The kitchen has long been known to be the most dangerous room in the house and this is not hard to understand. The homemaker spends nearly half of her working hours in the kitchen. She uses fire and sharp knives, which often are the cause of accidents. It is also true that haste and fatigue cause the homemaker to neglect important safe kitchen rules. Make your kitchen safe by arranging it to save time and energy. Select safe equipment and make sure it is in good working order. Concentrate on developing safe working methods for every kitchen task.

Here are some tips to make housework easier:

Fasten an old cloth over your dust mop and discard the cloth when it becomes soiled. This saves frequent washing of the mop.

Slip an old cotton sock on each hand when you dust, and dust with both hands. Then discard the socks when they become soiled.

If you wipe spots off the floor as they appear, it will not be necessary to wash the entire floor so often.

To remove black-rubber heel marks from linoleum, rub them with a cloth moistened with liquid wax, turpentine or cleaning fluid.

Time can be saved in the kitchen after a meal if you remember to fill your cooking dishes with water immediately after they are used, and let them soak until washed. Use cold water to loosen starchy foods such as dough or cereals and for eggs and milk. Use hot water to soak pans which have had sugary foods in them. Wipe greasy iron or enamel pans with paper, then soak them in a solution of baking soda and water.

To remove stains from tin and enamel utensils, heat them for a few minutes in a weak soda solution. For aluminum use a vinegar solution or other acid such as lemon or rhubarb leaves.

Never try to shine tinned pans. Scouring may remove the tin covering from the metal underneath and cause the pan to rust.

The inside of the teakettle should be washed at least every week, to prevent a scale formation on the bottom and sides.

To clean a pressure canner, wash it in hot soapy water, scour it with fine steel wool, rinse and dry it well. Never use gritty powders or soda for they darken the aluminum and cause it to pit.

To remove hard-water deposit from the bottom of the washing machine, rub it with a clean cloth that has been dampened in vinegar water.

Do you have trouble with a food chopper that won't stay firmly anchored to the table but slips and slides as you grind? There's a cure and it is a simple one. Put a piece of sandpaper, gritty side up, on the edge of the table before screwing the chopper in place.

An attractive pair of plant shelves or stands for the window sill can be made by sawing a round bread board in half. Paint them to harmonize with the color scheme of the room you want to use them in.

Small cuts, cracks or scratches in the surface of the linoleum may be healed if rubbed occasionally with boiled linseed oil. Have the surface clean and dry before you rub in the oil. Wipe off any oil left on the surface with a soft cloth. Allow the area to dry 48 hours before you wash it again.

Old jar rubber rings placed under flower pots on window sills protect the sills and help to anchor the pots in place.

To remove the dark deposit on an aluminum utensil cook tomatoes, rhubarb, lemon juice, or a weak solution of vinegar in it.

If the sink is too low and it cannot be raised, place a board or even an inverted pan under the dishpan to bring it up to a comfortable height.

Much of the backache and tire of household work can be saved by having the work table of the proper height. This will vary with the height of the woman who works at it. The proper height can be found by standing erect so that the back is not strained, and then placing the hands, palms down on the table with the elbows bent as for working. If too high, the table legs may be sawed off or a platform provided to stand on. If a table is too low it may be raised by blocks or casters.—I. W. Dickerson.

If you have to have pails and other things hanging up in a back shed or porch you will likely find that they get knocked off the nails easily. I take old snaps off harness that have broken tongues in them. Then I nail or staple these where the nails were formerly. It makes a great difference in being able to keep things hanging safely. I also use these fixtures in the milk house, in the cellar and on the clothes line to hold the clothes pin bag.—Mrs. R. J. L., Man.

The tins in which the tractor grease comes are handy for holding many things. I clean the grease out of them easily by taking a handful of sawdust and rubbing it over the inside of the can. In no time at all the grease is cleaned off.—Mrs. R. J. L., Man.

Save the waterglass in which the eggs have been packed. I use it for cleaning purposes. A liberal quantity on a cleaning cloth is a good aid in cleaning painted woodwork or furniture.—Mrs. W. C., Ont.

Aluminum Paint Uses


Continued from page 88

bon dishes beside artificial fruits on kitchen cupboards or dining-room buffet. These silver treasures can be supplemented by nuts painted with gilt.

Housewives interested in shellcraft will appreciate the "frosty" effect, so indicative of cold weather, that a touch of this silvery paint produces when applied to the edges of shells on a coat-lapel pin or earrings.

Conversely, it provides an appropriate setting for scenery pictures of cool summer resorts and although the frames may be non-metallic the paint adheres very firmly.

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Key to Natural Loveliness

Springtime is beautytime and here are easy ways you can acquire your share of good looks.

by LORETTA MILLER

IF APRIL showers bring May flowers they also bring better complexions. Getting out-of-doors after months of winter encourages spring activities that help give the cheeks a rosy bloom. Too, the usual spring weather of dampness, fogs and rains all aid in giving the complexion a flower-like softness and smoothness.

Unless you can return from a long outdoor hike feeling fit as a fiddle, you had better look into your clothes, the fit of your shoes and your manner of walking. Always wear warm but loose-fitting clothes so that you can swing your arms freely. Have nothing on, such as too tight belts, shoulder straps or collars, that restrict the free movement of the body. See that shoes have medium low heels, that they remain well on the feet, and that they are long enough.

Properly dressed for walking, be sure that you walk correctly. Hold your head high, swing your arms freely and walk briskly. Hum a march and step along rhythmically. You will get a lot of pleasure out of walking and you will return home bright eyed and rosy cheeked. Walk whenever you can. It is one of the nicest ways to keep figure youthful and complexion lovely.

You can make a splendid cheek tint out of beet juice. Cut up and boil, without peeling, two or three or more beets, depending upon their size. Cook them in as little water as possible in order to get a strong or colorful liquid. Cook until done then set aside and let cool. Strain through a cloth once or more until the liquid is crystal-clear. Let this stand overnight, then strain again before placing in a bottle. Now, to one-half cupful of the red liquid add one tablespoonful of your favorite cologne. Let this stand for twenty-four hours and it is ready to use.

Use your new Beauty Tint as you would any liquid rouge. Blend the tint smoothly and evenly over the cheeks and touch a tiny bit to your chin, smoothing it in too. This is an all-weather cheek tint that will remain on through any spring shower. If you wish to use this home-made tint on your lips, you will find it advisable to use a greasy pomade over the liquid application in order to make it more lasting.

Now is the time to get your complexion in condition. Months of sitting around indoors, biting winds and over-exposure, and the poor eating habits that we too often fall into during winter months, all mean that spring finds us with a run-down or cloudy complexion.

If you can stand a facial scrubbing, so much the better and all the faster for the skin-clearing process. Scrub with a complexion brush or borrow a shaving brush from one of your men in the house, lather the bristles well and scrub from neck to hairline. Use small, rotary movements as you scrub upward and outward. Then rinse off all soap and dry the skin. Next, smooth on a very light film of pure English lanoline which you can find at your corner chemists. The pure lanoline is not particularly pleasant to use and is not perfumed, but agrees with all



Madeleine Carroll has a smooth, flowerlike complexion.

skins. Even girls who claim to be allergic to many beauty creams, find the regular use of lanoline beneficial. It is often the perfume in many preparations that may prove a little irritating to sensitive skins.

If the lanoline agrees with your skin but you hesitate to use it because it is not scented, let me tell you how to add your favorite fragrance to it. Get a one-ounce jar of pure English toilet lanoline and have it placed in a two-ounce jar. At the same time place about twenty drops of your favorite perfume, or use oil of lavender or any oily fragrance your druggist has and which you like, in a small cylindrical bottle. The bottle, uncorked, must be immersed into the cream, but since this is impossible to do, it is necessary to hold the bottle up while pressing the jar of lanoline down over it. Then turn it right side up so that the bottle is standing upside down in the lanoline. Let it remain in this position until the fragrance has permeated the lanoline. Then remove the bottle and your facial cream is ready to use. If you do not wish to add the fragrance yourself, perhaps your chemist will do it for you.

USE pure toilet lanoline for chapped skin, too. Lanoline possesses a substance found in human skin and because of this is an ideal soothing agent for almost all types of discomfort caused by dry skin. If your facial skin is normally dry, by all means get into the habit of lubricating it with English lanoline. Cleanse your skin at night, then smooth over it some lanoline, being especially generous with it around your eyes and over your throat. Let the lubricant remain on overnight, then in the morning use soap and water and, if necessary, another light film of the lubricant. Protect your skin before exposure to harsh winds.

Summer or winter, fresh air is the natural friend to better looks. Walk when you can and let the benefits of this healthful exercise help keep you in the pink of condition. Get out-of-doors at any rate, now that spring is here, and you will soon lose that wintertime, indoor pallor. Or, bridge the gap between now and your summer tan by using pure English lanoline to help you make and keep your skin smooth; use the home-made tint for simulating a rosy complexion. But do your part by letting nature do hers.

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Old Gabriel

Continued from page 11

bellies under the laurels and listened.

Benny whispered that the old gobbler was away down on the other side of the mountain, and he started moving. He crawled after we got nearly to the top. Benny could crawl with no more effort or noise than a snake.

HE crawled up behind a big old log that lay along the crest of the mountain. We just lay still a while. I was just behind Benny's feet.

We could hear the old gobbler strut.

Benny pulled off his cap. His hair was just about the color of the barkless old log, and slowly, inch at a time, he lifted his head; and then his head stopped, and for the first time I saw Benny's shirt sleeve quiver a little, and he motioned with his finger to me to crawl.

I crawled up alongside of him.

"Bub," he whispered, "you want to see the prettiest sight you'll ever see on this earth?"

He put his hand on my neck to keep me from raising too high, and when I could see over the log, there he was. I saw Old Gabriel—his bronze feathers, polished by the morning sunshine, gleamed from a ridge beyond a cove on the other side of the mountain, but he was fully two hundred yards away. Me and Benny just looked a while. The great gobbler's head, which seemed over a yard tall, was a bluish-white. Benny said he could see his black beard. He said it looked twenty inches long. When he strutted Old

Gabriel got round. He looked like a great round ball of glossy feathers a yard through, and we could hear his wings tip the earth.

Benny whispered. "Keep your eyes on him when I call."

Benny allowed if he could toll him halfway to us he could hit him, and he took out his cedar box caller, and he gave a yelp.

Old Gabriel heard. He was in a strut with his head back in his feathers when Benny yelped, but he streamlined his body, and his great head shot up in the air, and he listened. I could see him dart his head this way and that, listening.

I whispered, "He heard you all right, Benny. Yelp again—"

But Benny didn't yelp right then. Benny said the least yelping was the best with a wild turkey.

After a minute, Benny gave one more low yelp, and this time, the old gobbler started toward us.

Benny poked his rifle over the log. The old gobbler came tearing. We could hear the sticks and leaves and twigs under his feet.

But he ran out of sight of us in the cove between us and the ridge. Benny put his cheek to the gun.

When the old gobbler came in sight again, he'd be bound to be no less than fifty yards from us, which Benny said would be a deadly distance.

But something struck the shrewd old gobbler's mind. The sound of his feet seemed to stop in the low section of the cove. He got still. We couldn't hear him and we couldn't see him. He must have just stopped and considered a while, and then he made up his

mind, and when we saw him, he was tearing back toward the crest of the ridge from which he'd gobbled. He got back on the ridge right at the same place and strutted and gobbled again. Benny gave another yelp. The old gobbler tramped round and round a while and clucked. You could see he was restless. He was going to move. Benny knew that too well, and he fired, but Old Gabriel spread his wings, ran to the sharp offset of the ridge and then floated away.

Benny Ames made noise now. He was defeated. He half drug his feet through the dry leaves. He knew it was over for a while. We went to where the old gobbler had stood when Benny fired, but we couldn't find a feather.

"It was too far," Benny said, "must be two hundred and fifty yards—"

He sat down on a grey rock and wiped his brow with his blue shirt sleeve. I sat close to him. Benny had got a little hot in the mountain climb and the excitement, and he smelled of pine needles and campfire smoke, and he hardly ever shaved more than once a month.

He got up and started away, but looked round about. "No mast much this year," said Benny. "That turkey will be about to get hungry later on. Then we'll get him."

He sat down on top of the mountain and considered a long time.

"Want to rest here a while, bub?" he said. "I'm going to run down to your barn and get some corn."

I waited. Benny came back with a couple of ears of corn. He walked down the mountaintop a ways and started back, dropping grains of corn

about a yard apart, and the same the other direction; then he shelled a whole ear in a little open place.

In the edge of a laurel thicket in view of the open place, Benny built a blind. He built it in the forks of an old log on the ground. I started to cut sticks with my knife to help, but Benny stopped me.

"Never make a mark with ax or knife," he said. "A wild turkey would see that a mile away." He built the pen of dead sticks and chunks that was the color of the log and all other surroundings, and after he got it done, he got in it, and poked his rifle toward the corn. Before we left it, he got a straight stick and stuck it out through the blind, which he said was to make it look the same after he got in it and poked out his gun, and keep down suspicion.

FOR two whole weeks, Benny let Old Gabriel come and eat the corn before he dared venture into the blind.

Mother kidded Benny about feeding Old Gabriel like that.

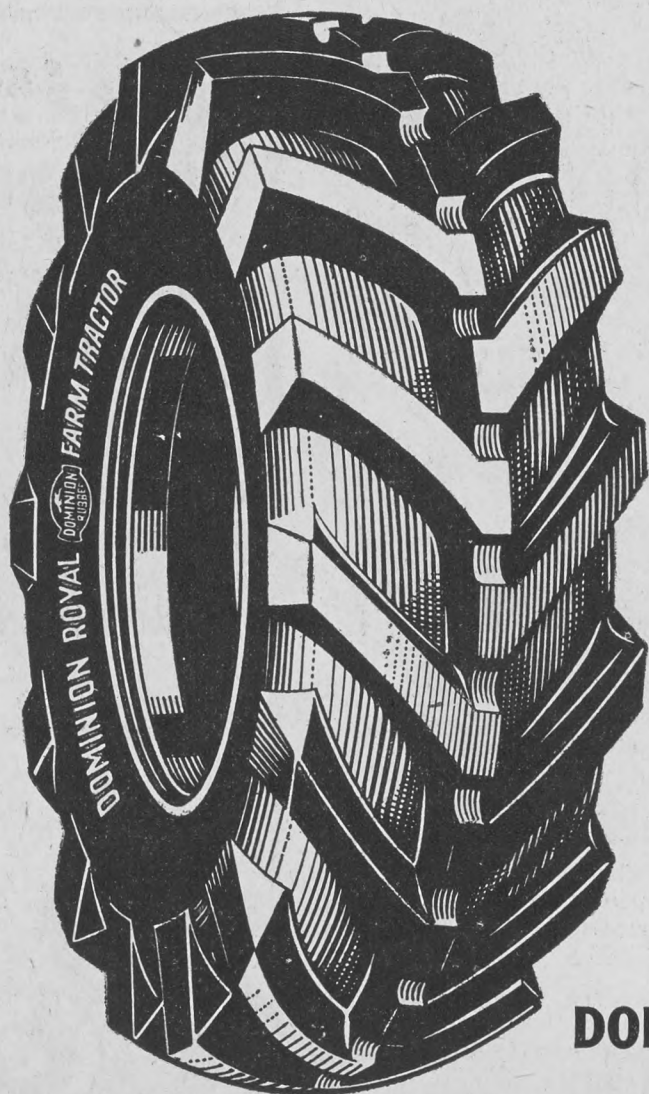
"It's nice of you to feed him," she'd say. "If I didn't know he was too smart for you, I wouldn't like it."

That always cut Benny to the blood. She'd bring up the subject like that when Benny would be at the table when he'd work for us, and it choked him.

And the morning we climbed the mountain to hide in the blind Benny said:

"Your ma won't talk like that when you all set down to your Thanksgiving turkey dinner. I intend you all to have fully half of Old Gabriel."

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We crawled in the blind before daylight. I recollect Benny wiggled around like a dog finding a good place to lie, and the dry twigs broke under him, and when day began to break, he poked his gun out, removing the stick, and told me if I moved he'd knock me out.

OLD GABRIEL didn't gobble that morning. Benny posted me to watch east, and he'd watch west along the mountaintop. Suddenly I saw Old Gabriel light on the mountaintop. He flew from one of the tall pines down the mountainside a ways, and flew on a level and landed on top. He circled round and round a while. Benny turned and watched him, too, and then the old gobbler began to walk toward us. He was four hundred yards east of us. He came slow. He walked with a stately stride. Now and then he'd jump up on a log or rock and thrust his blue-white head into the air and turn it every direction and look and listen, then he'd jump off and come on, and really, I thought my mother was wrong. Something told me Benny was going to get Old Gabriel this time. The ground was froze hard, and there was no mast, and only the white skeletons of the chestnut trees remained of the days when my mother said she'd seen Old Gabriel with his flock of fifty wild turkeys in that same cove.

The old gobbler came to a little rise. He was just about the same distance he was the day Benny shot at him, and Benny whispered again that if he came halfway from there, we'd have him for Thanksgiving.

But Old Gabriel didn't. The Lord only knows why, but he began to circle and thrust his head high, and get restless and uneasy, and Benny whispered: "Good Lord! He's fixing to fly—"

Benny barely had to move the breech of his rifle to have it to his cheek, and he took another long chance.

At the crack of the gun, I saw Old Gabriel bounce ten feet in the air. It was too far to tell if feathers came. The old gobbler came back down, but he was on his feet. He seemed bewildered. With a wide sweep of his arms, Benny Ames scattered the blind, and broke to run, but we'd no more than got started before Old Gabriel was in the air. He ran to the crest

again, and rose and then floated. We watched him circle over the valley. He sailed clear down over our house, and then circled and came back to the top of Buckhorn a mile down the ridge.

I ran after Benny. We saw feathers this time. Benny was nervous for the first time. He was down, raking and scattering leaves, and looking at feathers, and then he had in his hands a little clump of feathers, and a wad of white meat, nearly as big as a hen egg.

"I got part of him," Benny said, and we looked at the meat. Benny figured the bullet touched just under the fleshy part of the breastbone, and it seemed like the lump of meat had just peeled or rolled off; it hadn't hardly bled.

Benny held it in his hand and turned it and looked at it, and smelled it.

Then he laid it on a clean, rain-washed rock, and he began to gather twigs for a fire. He struck a match.

He stuck his knife blade in the little bite of meat and held it over the blaze and broiled it.

"Want to taste of Old Gabriel?" he said, and I did. Benny let me taste it first, and then he put the rest in his mouth. I watched how he rolled it on his tongue, tasting it, and then reluctantly swallowed it.

He gathered up every feather he could find and stuck them in his blue shirt pocket to show to Mother. I saw a little misery come up in her face when Benny explained that he had swallowed a bite of the flesh of Old Gabriel, and after Benny left, Mother talked about what a pity. She figured Old Gabriel would die, and nobody would have a Thanksgiving dinner out of him, and besides, she said it would be lonelier around our place with not a single turkey left to wake us of mornings roaring forth from the top of Buckhorn Mountain. She even said America would be short of something with the last wild turkey gone. She talked of it as a bigger loss than the death of the chestnut trees.

She took the feathers Benny brought and rubbed her cheek with them, and then put them away in an old cup on top of the pantry.

Benny Ames also came to worry about it. Old Gabriel hadn't gobbled from the mountain since that morning Benny shot him, and besides, Benny

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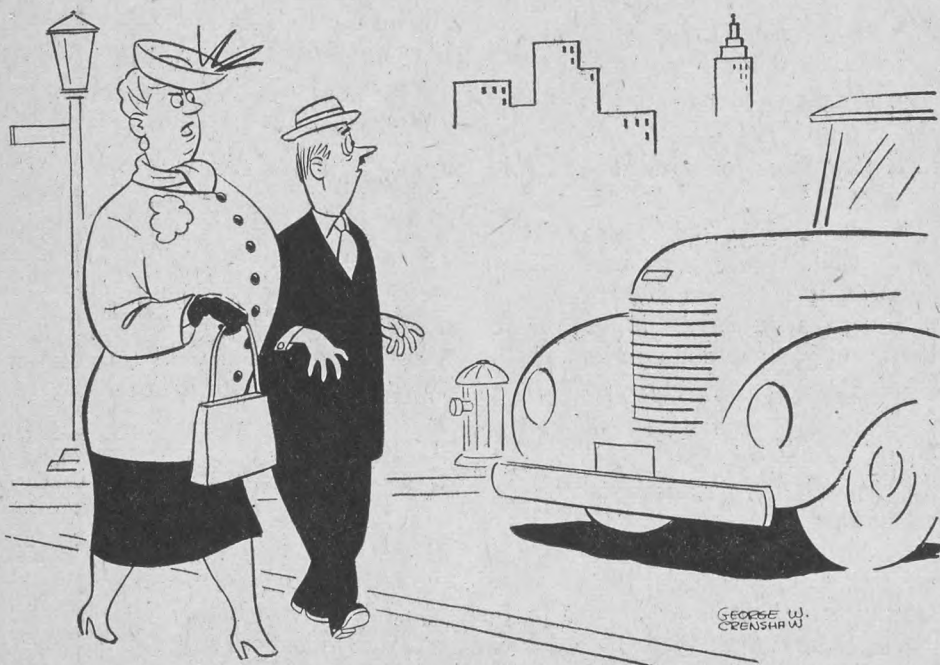
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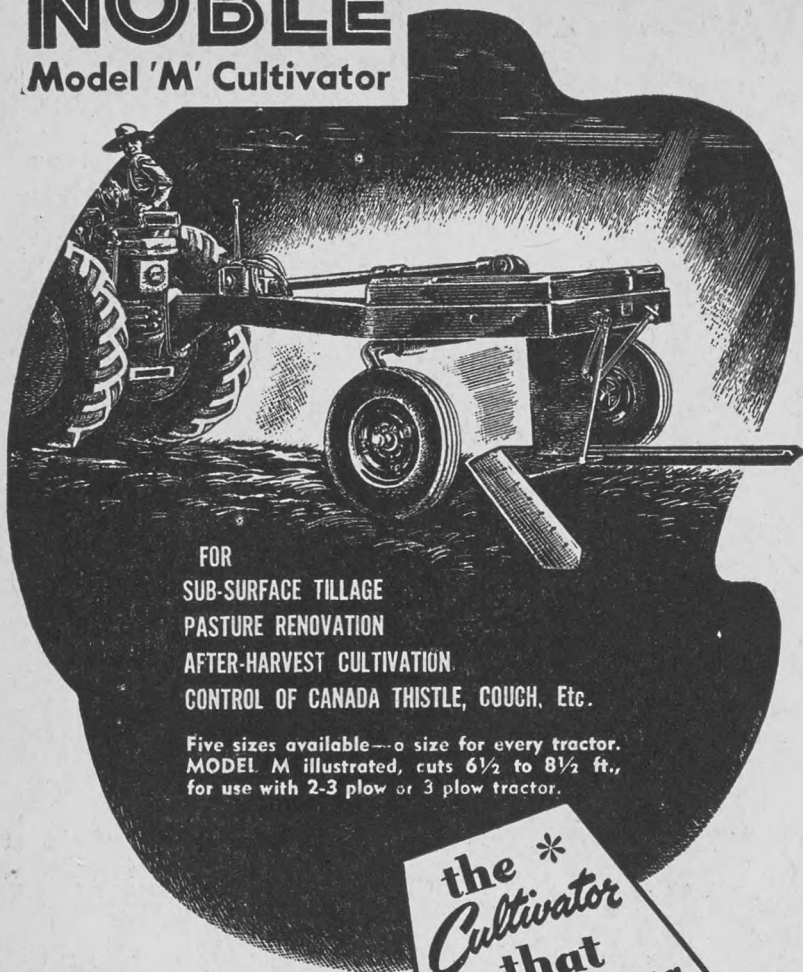
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DEALERS—Some choice territories still open.
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said, no man would ever get another shot at Old Gabriel, even if he was living.

Thanksgiving came and passed and nobody heard from the old gobbler until one day Mother came in from the mountain field.

Winter had set in a month before with a deep snow on the ground, and always when deep snows came, my mother had a habit of wandering in the high fields wherever she had calves or sheep, and she'd always carry her apron full of corn and wheat and the like to feed the stock or even the birds.

She didn't act a bit excited. She stamped around on the porch a while, and then got the broom and started sweeping the snow from her shoes.

"Go down to the creek and holler for Benny Ames," she said.

"What do you want with him?" I said.

"Old Gabriel's in the barn on the mountain," she said. "I figure that'll excite Benny."

I jumped up and down. "Mother! What? Him in the barn?"

and oats, and then had jumped down through the opening in the barn floor, and couldn't fly back up through the opening on account of his wing spread.

Benny made us latch the door behind him, and explained we could see him clinch the old gobbler better from the upper window.

Me and Mother went around and climbed the ladder where we could see down through the opening. It reminded me of ring history, and of bullfights. It was plain that two old masters had come together, but could see Mother didn't like it. In her heart, she wanted to open the door and give the old gobbler the kind of a fighting chance that the Lord intended him to have.

BENNY and Old Gabriel sparred for five minutes. The old gobbler circled close against the barn wall, keeping his head close to the little light cracks between the logs, and Benny stalked him. Benny was half crouched, his fingers half clinched and ready for the grab. Once Benny



"Well let's not get into a stew over it, let's scam!"

"Uh-huh," she said. "He ain't dead—'bout to tear the barn down, though. I saw where Benny shot him—naked place on his breast."

I ran for Benny. He jumped the yard fence. He didn't take time to get his red sweater on.

BENNY stood with his mouth half open when Mother told him, and after she finished, Benny said:

"Mis' Baxter, they ain't only one thing I ask. Let me go in and catch him. Let me get him alive in my hands—"

Mother smiled. "I knew you'd want to do that, Benny," she said. "Naturally, a hunter like you wouldn't want to shoot a wild turkey pinned up in a barn, but you can go in on him—"

Mother wouldn't even let us take the gun. She came with us to the barn on the mountain. We could hear the imprisoned old patriarch of the free mountains lunging against the sides of the barn. Benny peeped in and watched him a long time. Benny figured it all out after he got to the barn. Benny explained the gobbler had flown in at the window on the upper side where we threw in the hay

spread both arms, and backed the great gobbler into a corner. But the old turkey danced and tramped, and there was fire in his keen, red eyes, and he broke out of the corner. He jumped, and it seemed like the butt of his wing caught Benny on the right cheekbone when Benny grabbed, and a stream of red, warm blood started down Benny's face.

The old gobbler circled, but Benny stopped. He rubbed his cheek, and then looked at his hand.

"Damn!" he said. "Who'd ever think a wild turkey would fight you?"

"You drew his blood," I hollered at Benny in a kidding way.

Mother didn't like any of it.

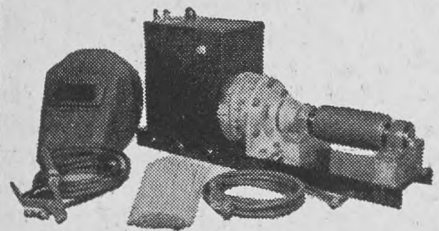
"It ain't a fair fight," she said. "The Lord didn't make wild turkeys to be pinned in a barn to fight a man."

When Benny glanced up, I thought he had a curious look in his eyes. He seemed to be a little puzzled and not exactly proud of his doings.

But he crouched again. The old gobbler waited in his corner where the most light was. Benny half slid on the straw. He nailed Old Gabriel by one leg that time, and from the best I could tell, what with the flying of

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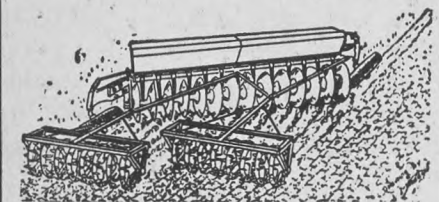
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wings, arms, hands and feathers, Benny was holding one leg; but the old bird was punching his face off with the other leg, and Benny turned over and over, and Mother hollered:

"That turkey's flogging him to death!" She started to climb down. I don't know if she intended to open the door, or to get in and help Benny, but I held her, and in another instant, the old gobbler had beat Benny in the face until he had to turn loose the leg. Then the gobbler carried the fight to Benny. Benny put both hands over his eyes, and started circling the wall of the barn, and the gobbler flying and jumping at him, and each time it seemed like it would catch him on the head with the butt of a wing or a foot.

But once more, when the old gobbler jumped for the opening in the floor Benny grabbed at it. The gobbler almost made it, and if he had, he would have knocked me and Mother out of the window, but he only got one foot up, and Benny grabbed the other leg, and then he kicked Benny in the face with the other foot, and they both went back down in the straw on the floor, the turkey kicking, pecking and punching Benny all over the head with his feet, wings and beak. Benny held both hands over his eyes, and he hollered.

"My eyeball's busted," Benny hollered, crawling toward the door. Mother almost fell off the ladder getting down. She seemed to lose all interest in whether we ever got the turkey. She unlatched the door while Benny was pounding at it, and I tried to shut the door as Benny staggered out in time to keep the gobbler in the barn, but I was too late. The old gobbler nearly knocked Benny down again as he dashed out.

Benny was reeling. He was groggy, and Mother grabbed up her apron and started wiping Benny's bloody face, but I watched Old Gabriel.

He made a few leaps to where a bank made off steep in the deep snow, and there he got the winter wind under his wings, and as he came up, he gave a defiant squall, and he was sailing again. He circled over the valley and then turned toward the tall pines on Buckhorn Mountain.

We had to get Benny to the doctor. Mother thought his eyeballs were cut. "Good Lord!" the doctor hollered when he saw Benny's bleeding face. "What kind of a fight you been into?"

The doctor couldn't believe that a wild turkey could cut and bruise up a man's face and eyes like that. He was uneasy about Benny's eyes, and Benny had to wear patches over both eyes for a long time. And even though Benny didn't lose either eye, the hawklike keenness was gone.

THAT spring when the buds started swelling, Old Gabriel blew his trumpet again from the crest of Buckhorn Mountain. He strutted and roared forth his challenge, and it echoed in the valley. But Benny Ames didn't jump the fences any more. He'd only sit and listen.

"I don't reckon I can ever see to shoot much no more," he'd say, and it was plain that his spirit was low.

In the cunning of woods ways, Old Gabriel had whipped Benny Ames. In fist-and-skull combat, the old gobbler had won, and Benny knew it. He knew he'd been whipped in a fair fight, toe to toe.

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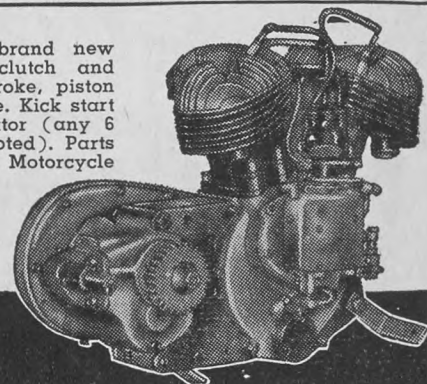
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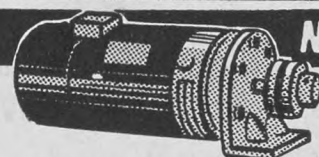
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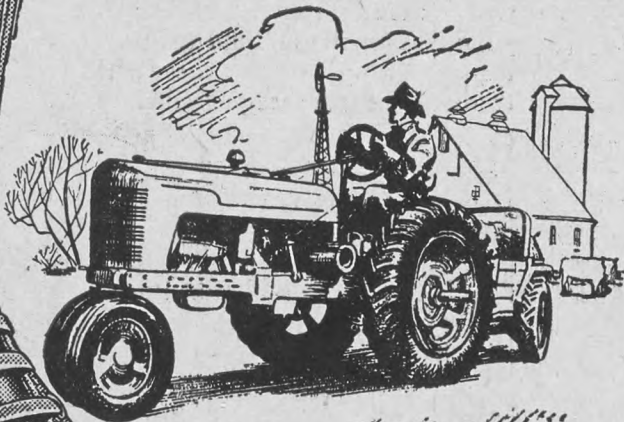
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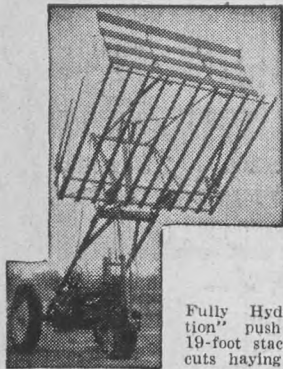


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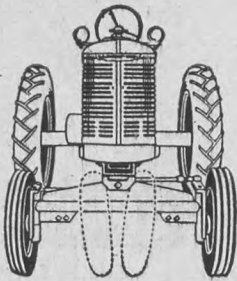
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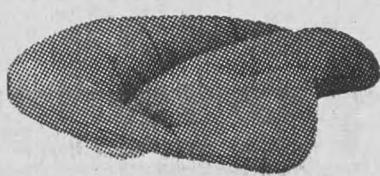
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Tracks In The Sage

Continued from page 17

"Well, if you ain't got no interest in Nought 9, there ain't no point in my bringing up what I was goin' to, which was that I seen them hired men Shepard's got, and I don't like 'em. Gun-snakes! They'd ought to be kicked plumb outa the country."

Annette, who had twice unsuccessfully tried to interrupt, now got in a word. "Dad, how'd it come out? You know what I mean."

Foster tipped back his slouch hat, rubbed his hands together, wriggled his shoulders and grinned like a happy schoolboy. "I was comin' to that, Annie. I called old ripsnorter Marr about them black bulls. Called him proper. And some way his old spunk and fire wasn't in him today. I poured the hard names into him, and then I says, plenty barbed wire:

"If you're goin' to run them black critters, this range ain't big enough for the two of us."

"He came back, 'I aim to run 'em, Foster. If you don't like it, buy me out."

"Annie, Claude, lots of times I've tried to get that ornery wolf either to buy me out or sell to me. Never could get a rise outa him. So was I s'prised! I took him up quick, though. I'd buy Cross M if the price was right. The quicker the better, so as to get them damn bulls penned up and then shipped outa the country."

"Well, the price he made was right . . . No savvy what has got into Marr . . . String to it was: One-half the value to be in cash delivered to him and put in his hands right on Cross M. Which means I've got to raise forty thousand dollars."

"I told Marr I'd get it . . . That's why I was glad to see you here, Claude. You've got influence with the money-bags there in Elkmont, and you can help me—I'm not up on them things—in making out the papers and all to mortgage Slash F to get that big wad. Let's ramble to town now. What say?"

ORMOND hesitated a moment. Then, "I'll go with you gladly, Mr. Foster. I'll do all that I can to help . . . See you later this evening, I hope, Annette . . . Whee!" as if the full significance of what was about to happen struck home quite suddenly. "This is a big deal, isn't it? Annette, my dear, you'll be the Cattle Queen of Elkmont county!"

Annette watched the two men ride away, deep lines between her eyebrows. She should have been happy, but she was not. She thought, "Cattle Queen? He's a strange fellow, with his polished talk and his sometimes funny ideas about the range. I don't want to be a cattle queen, and I don't intend to be. And I wish Marr wasn't selling to Dad. I wish there was another way to stop their quarrelling. And I'm so afraid something's terribly haywire . . . Don! Don Marr! If only you knew how I'm longing for you to come and talk to me!"

THAT evening Annette found Curly Bent's presence a comfort, for at this time Curly was the only hired hand on Slash F. He was the kind of fellow everybody liked, yet to whom nobody paid a great deal of attention; one of those loyal and dependable individuals who'd probably always be

just a hired man. Even-tempered and extremely good-natured, Curly got along fairly well with cantankerous John Clayton Marr.

In the years he had worked for Slash F he had seen Annette blossom until she had become, in his opinion, the very prettiest and nicest girl in all the world. Though he suffered from no illusions as to his own status in her eyes or his own lack of romantic appeal, his loyalty to the girl was so deeply genuine that Annette sometimes found it almost embarrassing.

He understood her moods and never failed to sympathize with her problems. So it was only natural that, almost without realization of it, Annette had taken him into her confidence and had grown to depend on him in the rare little, yet to her apparently enormous, crises of her life.

Particularly had this proved true in her relations with young Don Marr. When both their fathers objected vociferously to the young folks having anything to do with one another, they had found urgent need of a go-between, and who should this be but Curly Bent? Curly hobnobbed with John Marr's punchers, hobnobbed with young Don as well, and although Curly was loyal to Slash F to the Nth degree, Don Marr was his hero. Moreover, Curly allowed secretly that Don was the only fellow he'd ever met who was halfway good enough for lovely Annette Foster.

As was his unvarying custom, Curly whistled while he did the chores, and after supper when he helped Annette with the dishes. Finally, when he was about to go to the bunkhouse, he asked:

"Gin' to wait up for Dad Foster?"

"Why, yes, Curly, of course . . . I don't feel as if I could go to sleep. Suppose I'm just being silly, but—" Her voice trailed off. She knew her mental upset had transmitted itself to the steady hand, and the sympathy in his wind-darkened, honest face was reassuring. Yet this sympathy and this grave concern solved none of her problems.

He said diffidently, "Maybe we can play a few games of cribbage or pitch—if you'd like to . . . And, Annie, Don ain't goin' to let you down."

Annette didn't make an answer to this. She felt that it wasn't a question of Don's "going" to let her down. He had already let her down, and the wound was too fresh and raw for her to speak of it now.

She said uncertainly, "You need your sleep, Curly."

But there was relief in her voice. Hearing this, he was lighting the living-room lamp, and in another moment he opened a table drawer and took out a cribbage board and deck of cards.

As a usual thing Annette beat Curly at cribbage or at any other game. Tonight, however, she lost four games in a row, while the cowboy razzed her good-naturedly. Her mind wasn't on the cards, for she was watching the living-room clock. When it struck eleven she sprang up impatiently, moved to the door, opened it and stood listening. Slash F was wrapped in the unbroken silence of night, and hearing nothing, Annette turned.

"Curly, he should be here by now."

"Sure, but—"

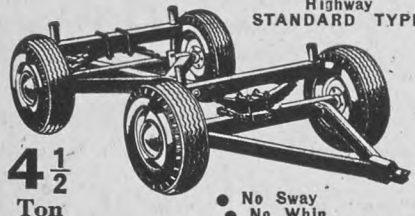
"I'm going to ride out to meet him."

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Curly's wrinkled-cornered brown eyes opened wide. "Now, please, Annie, get hold of yourself. Nothin' 'd happen to—"

"Will you get my horse?"

Curly shrugged and got up. "Oh, sure. And I'll go 'long with you."

THE road to Elkmont wound through foothills, and the night air was pungent with the strong, sweet smell of cedars and pines. Overhead the bright stars seemed so close that one might almost reach up and pluck them from the sky, and Annette found herself looking back to the other nights such as this, when she had ridden stirrup to stirrup with big, dark Don Marr. On those nights there had been a nameless, tingling, delightful something lifting her spirits. Tonight there was none of this. 'Twas nice that Curly was with her, but there was no romance about Curly, at least for her, and she so sad, bewildered and apprehensive.

Silly, of course, for she had no definite reason to feel apprehensive. Yet the miles slipped past and still they did not meet Dad Foster along the silent road. Then ahead of the two riders a horse whinnied.

"That's Dad!" Annette cried, and spurred to a lope. "I know old Peck's whinny."

They came to old Peck, tied to a scrubby pine beside the trail. Annette drew her own mount to a skidding halt. "Curly! What—"

From the depths of the cluster of pines beyond the horse came a rustling, scraping sound. Curly stepped down from his saddle, prowled back among the trees, and called, "Don't get scairt, Annie. Your dad's here! But he's gagged and snubbed to a pine . . . Oukoo! Here's Claude Ormond, too!"

Annette tried to be calm, practical and efficient. But, after all, she had never been confronted with a situation of this kind. Her hands were shaking so badly she had trouble releasing her father and untying the bandana wound around the lower part of his face. It held a wadded bit of rag crowded into his mouth.

Curly meanwhile released Claude Ormond. Hatless and considerably mussed, he came at once close to Annette and put his arm tenderly about her shoulders. "What a shock for you, my dear. I'm so terribly sorry—"

"Never mind my shock! What happened, Claude?"

"WE—that is, your father—raised the cash all right," Ormond began. "Although he scoffed at the idea that the ride home might be dangerous, I insisted on accompanying him, for after all he was carrying forty thousand dollars!"

"Yes," Annette cried. "Yes! And what happened?"

Jim Foster, who had been making strange noises as he cleared his throat and mouth, now exploded, "Girl, we got held up! Couple of men hidin' behind masks. But one was the damned old scoundrel, John Marr!"

"Daddy! Don't say—Well, John Marr wouldn't do such a thing."

"Wouldn't he though! That Scotch burr to his voice gave him away. Plumb! Nobody can't fool me on that ol' rapsallion's talk."

Annette felt as numb as if she'd been physically stunned. She drew a

deep breath and asked, "Who—who was the second man?"

Jim Foster hunched his shoulders, flexed his numb arms, rubbed his wrists. "I dunno. You got some ideas, Claude?"

"None," said Ormond shortly. "I'm not even sure that one of the crooks was John Marr."

"I'm glad to hear you say that," the girl exclaimed.

Curly, a dim figure in the background, had coiled the two ropes with which the men had been tied, and now stood waiting in silence. Ormond, his arms still about Annette's shoulders, queried quickly, "Now why are you so glad to hear me say that, my dear? After all the dirt this Marr has done you folks on Slash F, I'd think—"

"Aw, don't bother to think!" Foster cut in savagely. "Marr robbed me. That's that. He and his men snubbed us to these trees. Probably hoped we wouldn't be found till mornin'. Anyhow, they tied my hoss. Claude's bronc got away from 'em and high-tailed back toward town . . . Curly! Don't just stand there like a hunk of wood. Can't you track them two blasted thieves?"

Curly started. "In the dark, boss? How could I? . . . But at crack of day I'll get on the job."

"Ye-ah, you and the sheriff, both," snorted Foster. "Climb your bronc right now. Go to Elkmont and get Ed Taggart. Tell him what happened, tell him I lost forty thousand dollars. Tell him not to spill it around, though. Less said about it the better. And don't tell him I said John Marr robbed me. Let him figure that out himself—if he's got enough sense. Well, head out, cowboy. Head out!"

"I'm takin' these ropes," drawled Curly. "A rope's a personal sort of thing. They may give us a real lead. How much dough'd you lose, Claude?"

"None," Ormond replied. "I had fifty dollars on me, but apparently the thieves didn't think I was worth searching."

"Didn't take your gun or Dad Foster's either," Curly said musingly. "Maybe 'cause guns are right easy to identify and would give these crooks away if they happened to show 'em months later."

"Are you a range detective, cowboy?" Ormond inquired, and Annette, being very close to him, had the impression that he lifted his eyebrows.

"Uk-unn," Curly denied instantly. "But ol' Timberline Johnson's a whiz at this sort of stuff. First thing that'll occur to Timberline is who tipped off these stink-lizzards? Who the heck ever they may be."

"Tipped off?" rumbled Foster, showing marked irritation. "John Marr knew I'd try to get the cash. And that's that!"

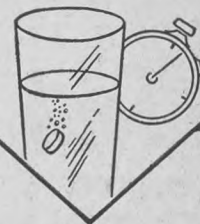
"Nuts!" Curly retorted. "I won't believe old cantanker did this job, or had any hand in it, till it's proved. And maybe not then . . . Steady. Keep your shirt on, Mr. Foster. I'll be amblin' along."

As he moved away, Annette thought, "I can't see John Marr doing a thing like this either." But she did not express the thought.

Ormond called, "Bring back my saddler, Sir Galahad, if you find him, Curly."

"WHEEOO! Some name for a horse!" ejaculated Curly. "Sure, I'll get him."

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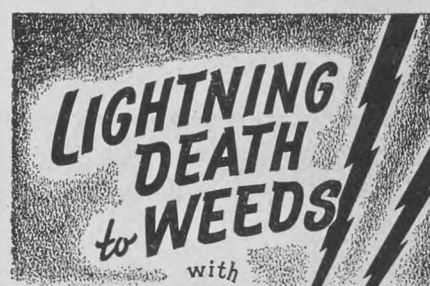
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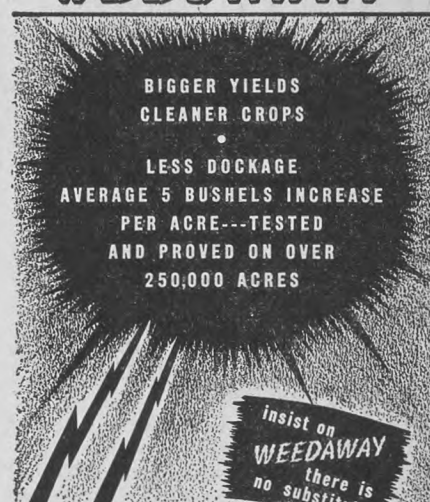
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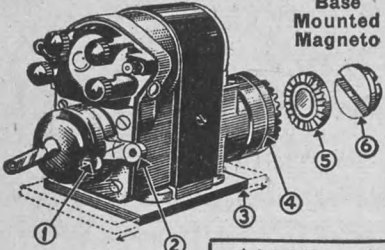
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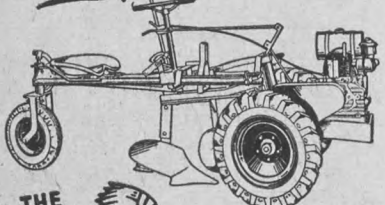
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Then the sound of his mount's hoofs on the hard road came back to Annette. She slipped free of Ormond's arm and helped her father out of the underbrush, finding him so exhausted that he leaned heavily against her.

Jim Foster had married very late in life, but somehow until tonight Annette had not thought of him as an old and feeble man, much older than Donald Marr's father. Now, as she heard him mutter, "Uh, I'm kinda used up, daughter; let me sit down a little bit," she all at once realized that he couldn't take the hard knocks any more.

"Yes, Daddy. Sit on this fallen log."

"Thanks. I'll be hunky in a minute. Never thought Marr'd be that dog-goned contemptible. Jolt of findin' it sorta done somethin' to me. Inside me."

"It would," said Annette. "Don't think I'm not upset, too! Yet perhaps your hurt goes deeper than mine." Oh, no, it didn't. It couldn't go half as deep as the hurt deep inside her! But why mention that? "For after all," she went on quickly, "if you'll be honest with yourself, you must admit that you and John Marr really like each other. All this squabbling and fiery talk has become a habit and is just a smoke screen."

"Huh? 'Smoke screen?'" Foster tipped back his hat and looked up at his daughter standing in the starlight. She was young, vitally alive, and her graceful figure commanded his full attention even more than her words. She saw him grin a bit sheepishly; then he said, "You ain't so dumb, honey."

NEGLECTED and almost forgotten in the background, Ormond put in, "Don't you two old longhorns really hate one another?"

"Sure we do," Foster growled. "Or if we didn't, we do now. Why, dog-gone that old... Annette, I didn't tell you everything Marr said when I saw him on Cross M today."

Foster broke off, stared into space, and muttered under his breath for a full minute before he resumed. "I called him on them black bulls, you know? I says, plenty snorty, 'You never actually promised not to turn 'em on the range, but I didn't think you'd do me such a dirty trick.'"

"He came back savage, 'Jim, I don't expect you to believe me. My own son wouldn't.' He stopped, and his face twisted and he went on, not to me, but to himself, 'My kid believes I lied to him.'"

"Naturally, I broke in, 'What's all this?' and added a few insults I happened to think of at the moment."

"Marr said, 'I didn't turn those bulls out of the pasture and scatter 'em on the range. Nor did my men do it.'"

"Daddy," Annette cried almost joyfully, "if John Marr said that you can believe it... Oh! Don didn't believe him. That's—that's—I don't understand it."

"Whether Don believed the old scamp or not, I didn't, and I snorted, 'I suppose you'll tell me they broke out of the pasture?'"

"And what did Marr say, daddy?"

"He said they hadn't broken out of the pasture, that the fence was all up ship-shape, and gates closed, which he said, showed that somebody had driven out the bulls and closed the gate afterwards."

"Daddy, this thing gets queerer and queerer... Did John Marr then hint that maybe you had put the black bulls on the range yourself—to start a fight?"

"No. He didn't mention that possibility. Humn? No doubt it occurred to him. But, like I've said, Marr wasn't himself. The fight was gone out of him. Doggone! he must have been all broken up or he'd not have offered to sell to me."

Ormond again made his presence known by clearing his throat, loudly. "If you'll pardon me, Jim, I might suggest that in the light of what has happened tonight, the man might have been playing a deep game."

Foster's mood had changed and had softened while talking with his daughter. Now all at once he became aggressive and angry once more again.

"Playing a deep game?" I believe you've hit the nail on the head, Claude. Yeh, that stuff about somebody else turning the black critters on the range was poppycock!"

He scrambled to his feet and snapped his fingers. "All poppycock," he repeated. "Marr's made a sucker of me, and damned if he'll get away with it! Neither horses nor men can fly. They leave tracks, and come daybreak with the sheriff on the job—we'll see what we'll see... Annette, honey, I had to plaster Slash F to the hilt to get that forty thousand dollars. Unless we get it back, we're through."

"Oh, we'll get it back, Daddy," comforted Annette, though with no least expectation that the cash would ever be recovered. John Marr had not robbed her father. He wasn't that kind of a man! But the thieves who now



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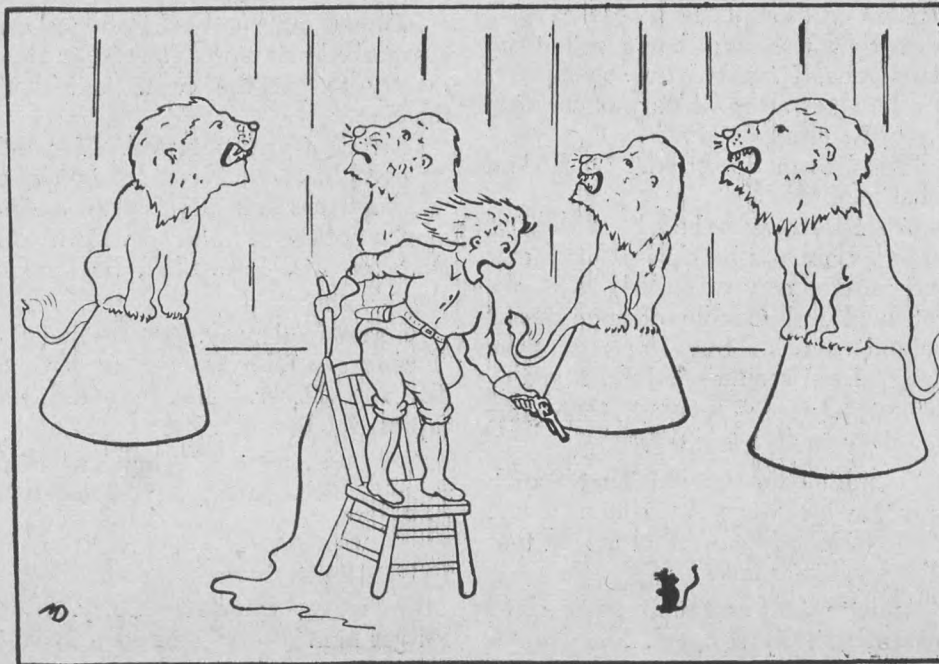
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had the money would be much too clever to allow themselves to be caught. She went on, "Claude can take your horse; you ride in the saddle on my pony and I'll ride behind you. We'll get you home and to bed."

CROSS M ranch lay in a wide and fertile valley back-grounded on the west by rugged mountains. A willow-lined stream fed by branches which came down from these mountains led southward along the valley, and on the east bank of the river, near the centre of the ranch, squatted John Marr's buildings.

Marr himself, tall, gaunt, with a heavy thatch of iron grey hair as coarse as a wolf's coat, came out of his house an hour after sunrise and stared in silence at the small cavalcade of riders who had reined up in his yard.

His leathery, aggressive features gave the impression of having been chiseled from rock—a rough job, which had never been polished. His heavy, bristling eyebrows added further evidence of his cantankerous and belligerent nature.

This morning Annette Foster, sizing him up more closely than ever before, thought he looked as if he'd had a bad night; looked, moreover, as if he had a bone to pick with the whole world. His cold eyes roved over his visitors, paused for a moment on Sheriff Taggart's blond, round face with open hostility, and then centred on Jim Foster.

"Did you need to bring a whole party, and even the lawman, wi' you, Foster?" he asked sourly.

"Taggart's got plenty to say to you," Foster bit off a savage reply. "Say it, sheriff!"

John Marr had antagonized Taggart even before the sheriff had been

elected, and afterwards this same knotty, outspoken cowman had flouted the lawman's authority on more than one occasion. Accordingly, Annette could scarcely blame Taggart for the triumphant glitter which now flashed in his eyes. He'd been "laying for the old wolf," and now he had him in a corner.

"First," said Taggart, "how many men are there on your place right now?"

"Only two," Marr returned. "Old Timberline and Biff Sloan. They've gone to work a'ready. So if you wanted to see 'em—"

"I did," cut in the sheriff. "Two men and the cook, eh?" He indicated by a gesture a tall, spare, severely plain woman who had come to the kitchen door and was watching the newcomers with open curiosity. "Where's your son?"

Annette saw John Marr's face tighten. He growled, "If it's any of your business, I don't know . . . Get to it, man. Why the devil are you asking me questions?"

"Eumnn?" said Taggart. "You don't know where your son is? Eumnn! . . . Curly, Ormond, go to the stable and corrals and look around. You know what to look for, and don't be too long about it."

Curly Bent and Claude Ormond at once turned their horses and loped away. Annette bit on her lower lip to hold it steady. Yes, indeed they knew what to look for!

Marr's temper boiled over. He glared at Jim Foster, tense with strain, his features a little bit grey under their tan. "Jim, if you came here to buy Cross M, let's get it over with. If you didn't—get off my property, all of you."

"Hold your horses," snapped the sheriff. "Foster isn't here to buy your

ranch, although yesterday evening he raised a large sum of cash in Elkmont for that purpose. Then on his way home last night with Claude Ormond, two masked gunmen held them up, robbed Foster, and snubbed both men to trees.

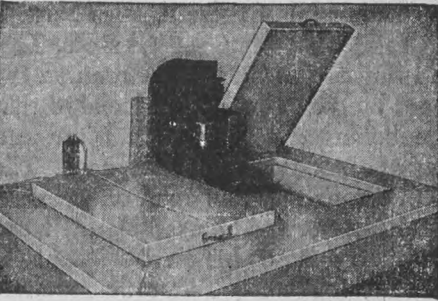
"Foster sent Curly Bent to town to get me, and at daybreak this morning I got on the job. Jim, his daughter and Claude Ormond joined us at the scene of the robbery . . . Making a long story short, after a difficult search we found horse tracks, made by the same two horses which had left plenty of hoof marks in the vicinity of the actual holdup, and these eventually led us to Cross M ranch. The thieves had taken pains to try to hide their trail, but—" Taggart shrugged and stopped talking.

MARR was staring at the lawman in what appeared to be utter bewilderment. Annette thought that surely a man of his character could not assume an attitude of such complete surprise. Yet she herself had seen and examined these tell-tale horse tracks, tracks which by devious way led both from Cross M to the scene of the robbery and back again to the ranch.

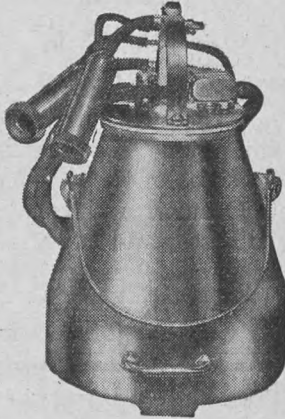
Nor were these tracks the only evidence to direct suspicion to John Marr. Curly Bent had identified the two ropes with which Foster and Ormond had been tied. As the cowboy had remarked last night, "A rope is a personal sort of thing," and like the great

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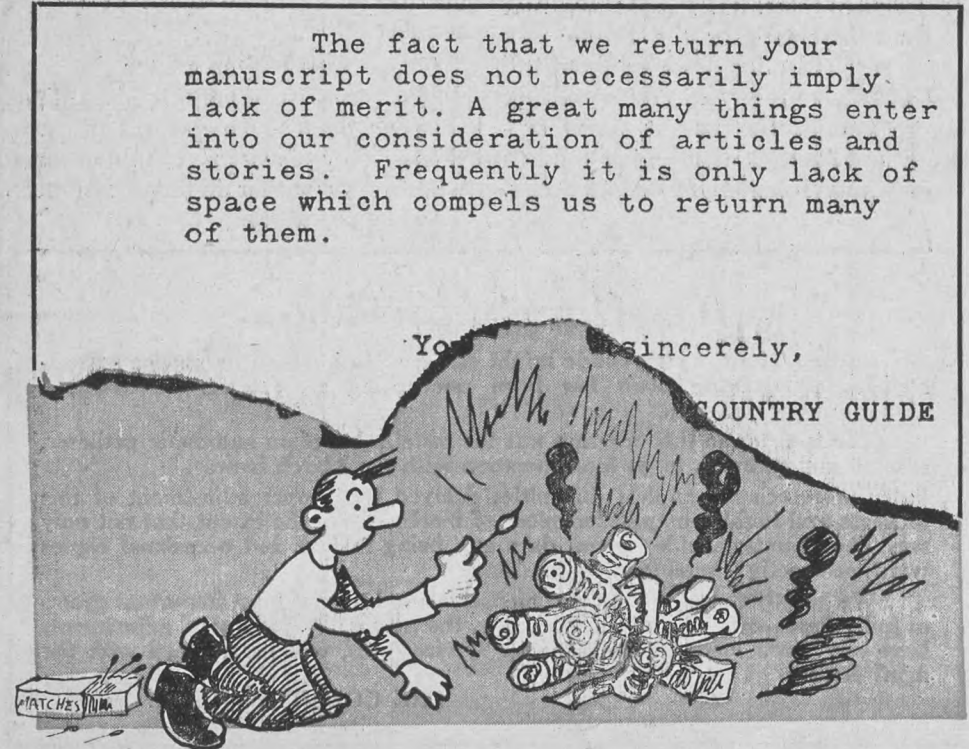
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Alex Wishart of Starbuck, Man., who has sent us some splendid cartoons had a bad run of luck recently in which not one of his drawings rang the editorial bell. So he made a little bonfire of his rejection slips. One slip did not get completely burned. He thereupon drew the picture shown here, affixed the charred remains of the slip and mailed it to us. Hats off to Mr. Wishart for his capacity to make light of adversity.

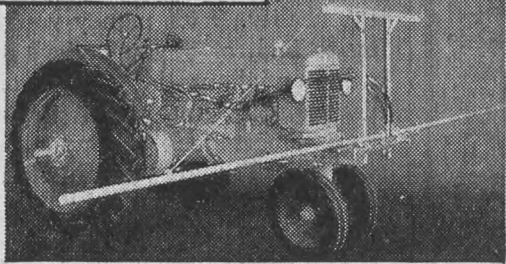


The fact that we return your manuscript does not necessarily imply lack of merit. A great many things enter into our consideration of articles and stories. Frequently it is only lack of space which compels us to return many of them.

Yours sincerely,
COUNTRY GUIDE

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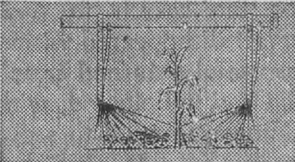
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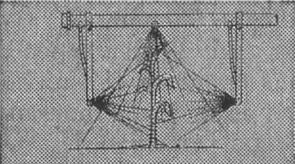
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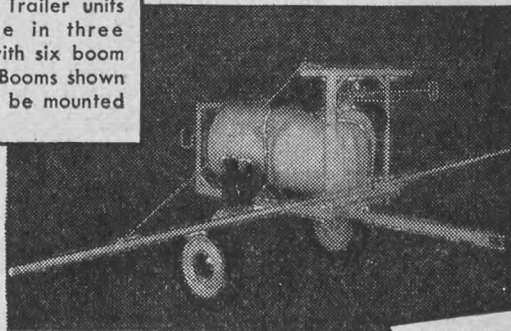


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majority of cowhands, Curly always took an interest in another rider's outfit. Not just the man's saddle, but his chaps, bridle, bit, spurs, boots, saddle blanket, gun, of course, and his rope. Curly could have described in detail any one or all of these articles belonging to Donald Marr for example. This morning after Curly had examined the ropes by daylight he had declared that one belonged to old John Marr and was the saddle rope Marr used. The second rope also belonged on Cross M ranch, an extra to be used by any hand who had none of his own.

Now, following Taggart's remarks, the silence drew out and tightened, Marr saying no word, no one else speaking until Curly Bent returned on foot from the big, red-roofed stable. He halted, pushed back his hat, and said to the sheriff, "Cross M's cavvy is still in the corral. The two horses the thieves used are among the bunch. They show plain signs of havin' been rode last night. Ormond and I have caught those two horses and looked at their hoofs. Said hoofs match the tracks we have run down, sheriff."

Taggart's eyes were on John Marr,

his hand rested on the handle of his six-shooter. "That settles it," he remarked tersely.

"One thing more," Curly resumed bleakly, as if he took neither pleasure nor pride in this coup, "the blankets belongin' to a couple of saddles now racked in the barn are mighty sweaty and still just a little bit warm. I'd say them saddles—one is John Marr's, the other an extra—and blankets, as well as the two horses, was used las' night, sheriff."

Claude Ormond, leading his mount, Sir Galahad, which Curly had picked up in Elkmont and returned to him, as well as Curly's horse, joined the small group.

The sheriff said meaningly, "I don't suppose you know anything about all this, Mr. Marr?"

"I don't," gritted the old cowman. "So far as I know, nobody rode off this ranch last night."

"I suppose you were in bed and asleep?" Taggart was now openly skeptical.

"I was. From nine o'clock on to five this mornin' . . . The boys, I mean Timberline and Sloan, said nothing to me of going any place."

Foster spoke up. "We can cut Timberline out as a suspect. The man's built like a tall pine and I'd have recognized his figure even on a black night, which last night wasn't. I don't know about Biff Sloan."

"I'll remind you, Foster, that none of us know the whereabouts of young Donald Marr," said the sheriff significantly.

"Jumping to what conclusion?" Marr demanded savagely.

Taggart hunched his shoulders. "I have no search warrant, Mr. Marr, but the situation justifies a search of your person and property."

ANNETTE saw Marr's eyes light and flash. "Have at it," he shot back instantly. "I'll not bar you from searchin' as much as you damned well please, officer, on a red-tape law-technicality. If it's money you're hoping to find, or if you believe my son is hiding about the place, you'll be disappointed. And one of these days, you smart-aleck whippersnapper," stabbing Taggart with hot, rage-inflamed eyes, "you'll be askin' my pardon for—"

"Cut it!" Taggart ordered. "Ormond, watch this man. Curly, you come with me."

He dismounted with a little bound.

Annette found it impossible to breathe in a normal manner. Cold and hot by turns, she waited with feverish impatience for the search to end. Curly and Taggart disappeared within the main house, and returned much sooner than she had anticipated, with the sheriff holding up for all to see a brown leather wallet. It was her father's. The girl caught her saddle horn to steady herself. Until this moment she had not believed John Marr guilty of this brazen robbery. But now—

She shook off the thought.

Dramatically, Ed Taggart opened the wallet. "It's crammed full of big bills, five hundred and thousand dollar bills," he announced. "Of course, I must have Redstone, the banker, identify this cash and state that it is the same money he gave Jim Foster," he concluded, and then placed the wallet carefully in his coat pocket, his hand none too steady.

Meantime Curly had come close to Annette's stirrup. Looking up at her as gloomily as if he'd lost his best friend, he said, "That dough was stuck in under Marr's mattress on his bed. Now what gets me is why didn't he hide it better? Even though he must ha' figured the trail'd never lead to him, he'd try to put it in a less likely place, seems to me."

Annette scarcely heard the loyal

hand. For Sheriff Taggart had stepped around in front of John Marr, saying tauntly and triumphantly, "You're under arrest, Mr. Marr. We'll pick up your accomplice later, but right now I'll take you to Elkmont. You can do your talking afterward."

Marr answered no word. For once he seemed to have been struck speechless.

TO BE CONTINUED.

Warning From Ontario

As no concerted steps have been taken to keep the starling down, it has become a widespread nuisance.

by FRANCES BLACKLOCK

I WONDER if people on this continent are aware enough of starlings, and the alarming rate at which they are multiplying? In 1890 a few pair were brought from England to New York. They were not to be allowed at large, but some escaped, which, as one becomes familiar with their habits, one can understand. As their natural enemies are not here, all these birds have to fear is man and he has, apparently, thrown up his hands in despair. Perhaps he just doesn't bother about them and, like most real issues, is letting it slide until it is too late. Red tape holds no terrors for these intruders, so they have crossed most borders on this continent without so much as a passport!

Unless one is familiar with their appearance, one may not be able to distinguish starlings from other black-birds common to these parts. The full-grown bird is rusty black and has a short tail. The legs are very light red and the beak is yellow. In the fall buff markings appear on the breast. They swagger when they walk. They are sometimes confused with grackles which have a black beak and much longer tail.

A pair of them took possession of a hollow in a dead branch of a tall maple tree by our lawn last summer, so I had an opportunity to watch them at close range. We said that they should be shot before the eggs were laid, but of course none did anything about it. As a result, we were deafened by their racket from morning until night when the young hatched. There was always a mess on the ground under the nest which reminded me of the nest surroundings of English sparrows. People say that if their nest is near the house that there is a bad odor detected from it.

I shall have to say one thing in their favor though, the parent birds certainly never stopped bringing food to their young from daylight until dark.

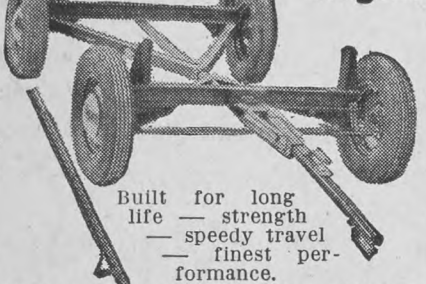
The foods in which they specialize are grasshoppers, rose-beetles, crickets, canker-worms and Jap-beetles. Flocks of them will come and feed on a grasshopper-infested meadow. If we had some way of controlling their numbers they might partly redeem their loathsome ways by their economic value to the farmer.

I noticed that our favorite songsters like the robins, bluebirds, vireos and orioles will not nest near them if possible. A pair of orioles which always returned and nested in the tree next to the starlings' tree moved away down the lane to build so we missed out on their sweet singing. A pair of robins built in a vine on the house just across from the starlings, and there was a continual fight between the two families seemingly caused by the starlings, which shows them to be quarrelsome neighbors. I imagine that the robins won't attempt to live near them again. Other neighbors said that the starlings occupied holes in trees on their farms where bluebirds and woodpeckers usually came to nest. They were annoyed about that, as a bluebird, especially, is worth its weight in gold to a farmer.

Their attempts at singing are very much like their other characteristics. They steal other birds' songs! At different times I heard them trying out the song of every bird which had a nest on the lawn or in the nearby orchard. They will perch up on a chimney and put on a recital going from the song of one bird to another. It is really sort of amusing. There isn't much sweetness in their songs though. Sometimes they start off very well, but a raspiness shows through it all and there is no finish or beauty about it.

They spend the winter here in flocks if they can obtain food at all, so that we don't even get rid of them then. They have roosting grounds where they gather in huge numbers.

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To Our Subscribers

So that The Country Guide might continue to improve its service to subscribers, its printing plant has been undergoing an extensive mechanical modernization program.

The last step in this program was the installation of an automatic gatherer, stitcher and trimmer, to go into operation with the March issue.

Unforeseen mechanical difficulties delayed the proper adjustment of this intricate and highly complicated piece of machinery to the extent that not only was The Country Guide several days late being mailed, but occasional copies were incorrectly assembled.

We greatly regret any inconveniences caused to that most important group of individuals—our subscribers. However, the necessary mechanical adjustments have now been made and our former service, plus, will be restored with the April issue.

THE COUNTRY GUIDE.

The Country Boy and Girl



What We Say!

Summer is fun
For riding our bikes,
Autumn is fun
For our Saturday hikes.

Winter is fun
With its skating weather,
But spring and baseball
Go best together.

—AUDREY MCKIM.

The Strange Tale

by MARY E. GRANNAN

THIS is a very strange story indeed, as you will soon find out. When you do find out, you'll be so surprised that you'll likely fall right off the chair on which you are sitting. But don't cry if you do! For goodness sake don't cry! This is the story of a little boy who was crying all the time and of what happened to him.

You see this little boy (I'll call him Johnny Blue, because I wouldn't want to tell you his right name) wanted to do just as he liked. That might have been all right if he had wanted to do the right things. But he didn't. He wanted apple pie and ice cream for breakfast. He wanted to go outdoors on stormy days without his overshoes. He wanted to light matches in the living room.

When his mother told him he must not do these things, he cried. He cried so loudly that people began to go across the street when they passed his house, because they did not want to hear his wailing. One morning his mother went into the living room, just in time to catch him on the piano stool, opening his jack knife.

"Johnny," she asked, "What are you going to do?"

"I'm going to carve my name 'Johnny Blue' on the piano," he said.

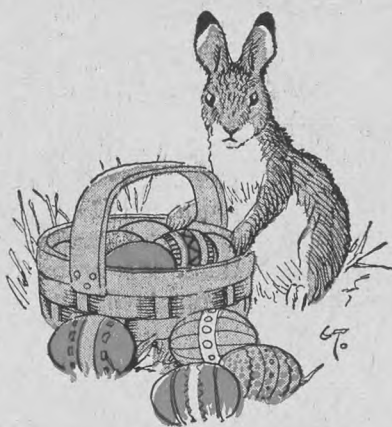
"Johnny!" gasped his mother, "such a thing to even think of!"

She took the knife from him, and he opened his mouth as wide as wide, and screamed, "I can't ever do anything I like around here. You said that this was my piano. You said that when you got it, so I could learn to play it, and if it's my piano, why mayn't I carve my name on it?"

"Because it is wrong," said mother. "No child ever cuts up furniture, Johnny." Johnny kept screaming that he could never do as he liked.

THIS year April brings us Easter. Many different things come to our minds at this season of the year—April showers which bring May flowers, fluffy white rabbits that, we are told, hide decorated candy Easter eggs for us to find, perhaps some new clothes for spring, and, best of all, a whole long week of holidays!

This is the time of year when we become more interested in the outdoor world and boys and girls who live in the country have a good chance to see what Mother Nature is doing these days. How proud you are if you have been the one to find the first pussy willows, or hear the first crow, or see the first muskrat who has left his pond to wander across country. All this is information you eagerly tell your teacher and classmates. Would your class be interested in forming a nature club? Here is some information on bird clubs: To form a club of ten or more members write to Canadian Nature, 177 Jarvis St., Toronto, Ontario, enclosing fifteen cents for each member. They will send each member a membership pin, six leaflets describing birds, six colored pictures of birds and also six bird drawings to color. Besides your club will receive the Junior Bird Club paper and your teacher will receive a booklet describing plans for your club for the year. With all this material your nature club should get away to a fine start.



Ann Sankey

Mother smiled, and suggested that he go outdoors and play in the rain. "You'll feel better if you do, Johnny, and the rain will wipe those ugly tears from your face."

"All right," said Johnny, "but I'm going out because I want to go; because I like playing in the rain." He started for the door. His mother called him.

"Put your rain coat and rubbers on, dear," she said.

"I don't like rain coats and rubbers," Johnny wailed.

"Then you must stay in the house," said mother. "You'll get cold if you go out without them."

Johnny then threw himself on the red rug in front of the fireplace, and he cried and cried and cried and cried. The red rug became soaked with tears, but he still cried. When the nine hundred and ninety-ninth tear fell on the red rug, a little red man jumped up through the pile on the carpet and said, "Hello, Johnny Blue!"

"Who are you?" asked Johnny. "And where did you come from?" The little red man told Johnny that when anyone cried nine hundred and ninety-nine tears on a red rug, he always came out of the rug to visit him. "You're a good friend of mine, Johnny Blue. I'm going to take you with me to the Land of Do-as-you-like."

Johnny brightened. "To the Land of Do-as-you-like? Do you mean if I go with you I can go out without my rubbers, and have ice cream and apple pie for breakfast, and strike matches and carve my name on things?"

"Of course I mean that," said the little red man. "Do you want to go?"

"Yes," said Johnny, "I do, because I want to do as I like. But how do we get there?"

"We sail away in this red rug boat," said the little red man. Johnny looked down at the red rug on which he had been crying. It was indeed a boat now. His salty tears had made a sea. The little red man started the engine and away they went.

It was pouring rain when they arrived in the Land of Do-as-you-like.

The little red man laughed. "Aha," he said. "Look at the rain. And you've no rubbers or rain coat! Isn't that lovely?"

"Yes," said Johnny, and he paddled around until he was soaking wet. And then he began to cough and sneeze, and he felt a pain creeping into his chest. "I think I'd better go home and get some cough syrup," he said to the little red man.

"Oh, who cares for an old cold?" answered the red man. "Come on into the house, and have some ice cream and apple pie." Johnny was set down to a piece as big as the front porch, with a scoop of ice cream on it as large as a snowman. He shook his head. It was just too much pie and ice cream.

"Don't have to eat it, unless you want to," said the little man. "How about striking some matches. You want to do that, don't you?"

"Yes," said the now sneezing Johnny Blue. The match he struck was as big as a snow shovel. He burnt his hand badly, and cried out, "Mum's right. I shouldn't do as I like. She knows best, and he ran for the red rug boat. It became a rug again the minute he stepped aboard, and he found himself back in his own living room. He could hear his mother in the kitchen. He went to her.

"Mummy," he said, "I'm sorry I've cried so much. I know now that what you say is right."

"How did you find out, dear?" mother asked.

"The red rug told me," said Johnny Blue.

Mother knew that Johnny Blue had been dreaming, but she didn't tell him so. She was so glad that he was home from the Land of Do-as-you-like, that she didn't say another word.

Are You Observant?

By WALTER KING

QUIZZING is quite a favorable pastime these days. After teacher is through with you at school you go home to find mother and father puzzling over questions in their favorite magazine or listening to a radio quiz program featuring the "Know-It All Kids."

It's a good thing to keep your mind awake, and it's not a bad idea to keep your eyes open too. How observant are you? How much knowledge are you gaining by paying attention to what you see?

This little quiz will help tell you. You will find it suitable for the whole family. Write answers on a piece of paper and see how observant you really are.

1. Does a Canadian ten-cent piece have a smooth edge?
2. Does a five-cent piece have a picture of a ship on it?
3. Is the King's picture on a new one dollar bill?
4. What two letters of the alphabet are printed exactly the same on a coin?
5. How many face cards in a full deck?
6. Does the King wear a hat in the picture on a three cent stamp?
7. What color is a one cent stamp?
8. What month of the year has the most letters in it?
9. What color is used to print the serial number on a one, five, or ten dollar bill?
10. Is the figure four on a clock dial using Roman numerals written IV?
11. To open a door must you turn the handle to the right or left?
12. If you took your friend's first name and he took your last name would both have the same name?
13. If a rope is stretched across a railroad track and a train runs over it, into how many pieces will it be cut?
14. Do the lines on the palms of your two hands make the same pattern? No peeping now.
15. How many teeth have you at the present time?
16. How many windows are there in your home?
17. Has this magazine got the subscription expiry date on the cover?
18. What is the make of your cook stove?
19. On a Union Jack which color occupies the most space: red, white, or blue?
20. What word in these questions was spelled incorrectly? Answer quickly, it stuck out like a sore thumb.

Now for your score. It all depends on your age of course. Baby would get them all wrong except perhaps question 15. The average senior public school pupil scores 9 to 11. From 12 to 14 is high school level. Father or mother will not do much better than that. Grandfather and grandmother wouldn't dare try.

How observant are you?

ANSWERS

1—No. A milled edge. 2.—No. That's a dime. 3—Yes, on many an old one too. 4—U and V. 5—Twelve. 6—Yes. 7—Green. 8—September 9—Red. 10—No. Written IIII. 11—Either way, usually. 12—Yes. 13—Three. 14—No. Take a look at them. 15—Make sure. Count 'em. 16—Check. 17—Check. 18—Check. 19—Red. 20—Exactly. Question 4.

THE *Country* GUIDE

with which is incorporated

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VOL. LXVIII WINNIPEG, APRIL, 1949 No. 4

The Atlantic Pact

In endorsing the draft treaty of the Atlantic Pact, Canada has made the most momentous decision in her history. Her citizens thereby express their desire to live at peace with the rest of the world, but at the same time undertake to resist with all their might any aggression which threatens their conception of democracy. In the nineteenth century it was possible for neutrals to insulate themselves more or less effectively from the economic disruption of war in other parts of the world. In that day isolationism was understandable. Today there can be no neutrals. The victors in any future conflict will shape the rest of the world in their own image, neutrals as well as the vanquished.

The technique of war has advanced to the point where the outcome is determined very largely before the opposing forces join battle. If western democracy is to survive, its captains must be able to mobilize superior forces in sufficient time. There will be no protracted period of "phoney" war, as there was in 1939, for the contending sides to marshal their forces. An embattled alliance of democratic nations, lacking the unified direction of totalitarianism, must agree in advance on the contribution each is willing to make in a common cause, and a time-table for action. Canada has chosen. Should destiny call for a fulfillment of the bond it will be in accordance with that time-table and to the limit of her endurance. Successful alliances cannot be built on lukewarm participation. The price Canada may be called upon to pay as a result of this fateful decision is terrifying in prospect, yet in the end it would be cheaper than the alternative open to the democratic nations of defeat in detail, destruction and enslavement.

It must be a source of gratification to all patriotic Canadians that the vote in the House on the Atlantic pact was practically unanimous. The recent Quebec by-election, in which the government candidate was defeated, was fought largely on the question of isolation. Mr. Drew appeared on the platform in Montreal beside Ivan Sabourin, his lieutenant in that province, who has publicly proclaimed his isolationist views. There was a growing fear that Mr. Drew's position might be compromised by his Quebec supporters, but to his credit he took up an unequivocal position in the House debate. It is to be hoped that his leadership on this question will remove isolationism from party politics.

The C.C.F. voted unanimously for the pact, which may help some simple minds to differentiate between them and the Communists who are violently opposed to it.

At the close of the debate, Prime Minister St. Laurent crossed the floor and shook hands with the leader of the opposition. It was a symbolic act. It may mark the closing of one of the great cleavages between the two official races in this country. If Mr. St. Laurent can lead his fellow Quebecquois to recognize their interest in, and responsibility for, presenting a united Canadian front in support of liberal democracy, and if Mr. Drew can refrain from making party capital out of differences of opinion which still linger, both of them will have earned the undying thanks of their countrymen.

The Atlantic pact presents difficulties to the Americans also, but difficulties of a different order. The American constitution reserves to Congress the sole right to declare war. Congress is exceedingly jealous of that right and will not commit itself in advance to any proposition. It reserves the right to decide each case on its merits as they appear to American eyes. The other partners in the Atlantic pact have been profoundly disturbed by the utter-

ances of Senator Connally and others on this point. Does the pact present a solid, unbreakable anti-Communist front, or does it not? Can one of the major partners elect not to support the others with the prompt application of force if needed? Must the other democratic nations go through another pre-liberation period while the Americans argue, as in 1914 and 1939? Dean Acheson, American Secretary of State, has issued a statement meant to be reassuring. He recognizes the legal right of Congress, and Congress alone, to make war. But he admits the existence of moral obligations to join in a war under circumstances outlined in the pact. He asks the world to believe that the American people, speaking through Congress, will carry out their moral obligations. It is probably the best guarantee the Atlantic nations will get. It ought to be good enough.

The Budget

Farm comment on the budget will, on the whole, be favorable. Budget surprises were few and unimportant, having been accurately foreshadowed in the daily press. Guessing was made easier because of the approaching election. It was morally certain that Mr. Abbott would have a plum in his pocket for the voters. And so he had. The income tax has become the chief source of federal revenue, and the public is more sensitive to its provisions than to any other budgetary item. By making a cut of \$270 million in the income tax Mr. Abbott enlisted more goodwill than he could have got at the price by any other means. The cuts have been wisely distributed giving relief to the maximum number of people and honoring the principle that those who can best afford it should pay most.

It would have been too much to expect a finance minister in an election year to provide a substantial reduction in the general sales tax although a very good case could be made in that behalf. John Q. Public is acutely aware of the cash which must accompany his income tax return. He is only dimly conscious of the incidence of indirect taxes, even though they may impose a greater burden on him. There is no doubt which instrument gives out the sweetest music in an election year, and Mr. Abbott is a musician with a finely tuned ear.

In former times farm leaders scrutinized the tariff features of budgets with the greatest care. The budget made the frame into which the nation's foreign business was built. Nowadays trade restrictions have taken so many other forms that budget announcements only tell half the story. Quotas, embargoes, and bilateral agreements are far more potent trade weapons. The release of Canadian cattle for the American market last August benefitted western farmers more than any tariff adjustment could conceivably have done. To that extent interest in budget tariff changes has receded.

On this score, however, the budget speech provided a welcome sign. The minister recognized fully that trade is the basis of Canadian prosperity, and pledged the government to strive for maximum trade with the rest of the world. This is a particularly welcome commitment just now. Under the dislocations of war-time trade, and again in the wake of the 1947 trade restrictions, certain industries took root in Canada which will find the going hard when foreign competitors have regained their balance. Already there are murmurings at Ottawa. Deputations will soon be arriving to ask for the imposition of dumping duties and other protective devices to safeguard uneconomic industries which have mushroomed in the forcing climate of the times. The public has been hearing about Belgian glass, Czech textiles, and Japanese gloves. Mr. Abbott's pledge in the budget speech sounds like an undertaking to recognize the advisability of encouraging foreign customers to earn the dollars wherewith to resume their pre-war Canadian purchasing. It will certainly be taken so in western Canada.

The treasury is to discontinue the government subsidy of 46½ cents per bushel of wheat that goes into domestic flour. Our information is that millers will be able, however, to continue buying wheat at the Class I price. In other words the finance minister is unwilling to continue bonusing consumers out of tax money, but he is quite willing to bonus them

out of the farmers' private pocket-book. The arrangement by which one group in the country should be penalized for the benefit of all others is one of the most unfair pieces of discrimination ever let loose from Ottawa. It should be abrogated at the earliest possible moment. Its abrogation should have preceded the removal of the government subsidy. On this item Mr. Abbott's political sagacity seems to have failed him.

The World Wheat Agreement

The decade preceding the war produced a radical change in the thinking of western farmers with regard to grain marketing. Prior to that time it was assumed without question that there would always be a market for all the grain Canada could grow. The collapse of world markets and the accumulated wheat surpluses of the '30's gave first place to a new concept, stability of markets. Producers for the first time became less concerned about current prices and very much more concerned about being able to sell a future crop at any price consistent with production costs. The failure to recognize this shift in the farmers' mental attitude prevented some commentators from understanding the reluctance of many farmers to condemn the British wheat agreement in the years when it looked most unfavorable. The wheat agreement provided the element of stability which had come to loom so large in their calculations.

Because it extends a stabilizing influence beyond the life of the British agreement, now in its last year, The Guide believes western wheat growers will support the new World Wheat Agreement, reported on elsewhere in this issue. It is not as good an agreement from the North American point of view as the one reached last year, killed by the inaction of the 80th Congress, but it is probably the best that could be reached now.

The agreement would divide the world's export trade in wheat into two streams. One stream of 456 million bushels would again be divided into quotas, for both exporters and importers, and selling at prices between the floor and ceiling provided for in the agreement. The other stream would be unregulated. Any trading nation, after fulfilling its obligation under the agreement, and those nations not in the agreement, may sell where they like at whatever prices they may be able to negotiate.

By this form of organization Canada will be assured of an outlet for 203 million bushels annually at prices above costs, so far as anyone may safely predict. The balance may be sold at prices above the ceiling or below the floor, according to the state of the market. Supply and demand factors will thus operate up to a point. Beyond that point producers will be protected from the effect of steep price declines. Consumers will be protected from skyrocketing advances. Growers will get forward price information without the rigidity which mars so many control schemes.

Unfortunately neither Argentina nor Russia will be signatories to the agreement. The Peron government has indulged in a reckless control policy which left behind it a tangled skein of discontented growers and indignant customers. The Argentinians probably had to stay out till they cleaned house.

The Russians confronted the conference with a demand for a large quota after having dropped out of the international wheat picture for a considerable period. Their explanation is that the exigencies of war gave birth to heavy grain production in new areas. Reconstruction, however, is bringing the old areas back into production and the combined output has outstripped the considerable growth in Russian population. Other nations did not feel that the Russian demands were well founded. The explanation is unofficially put forward that the Russians could not have filled the quota that they asked for; that their participation in the conference was merely to dislocate it. Be that as it may, they withdrew from the agreement and will have to sell their surplus in the market outside the agreement quotas.

The growers' ideal of a guaranteed price for an unlimited quantity is not a possibility in this post-war world. The wheat agreement awaiting signature is probably as close to it as growers will ever be offered.